Dump Road Area Characterization of Possible Source Areas Report
Martin State Airport
701 Wilson Point Road
Middle River, Maryland

Prepared for:

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ACRONYMS AND ABBREVIATIONS

ASTM	ASTM International
B	analyte detected in blank sample
BTAG	Biological Technical Advisory Group
BTEX	benzene, toluene, ethylbenzene, and xylenes
C_i	effective solubility (mg/L) of chemical
$C_{i(1\%)}$	1% of effective solubility
cis-1,2-DCE	*cis*-1,2-dichloroethene
C_D	concentration of DNAPL saturation threshold (mg/kg)
COC	chain of custody
COD	chemical oxygen demand
CPT	cone penetration test(ing)
CPTu	cone penetration test(ing) unit
CRA	Compass Rose Area
C^T	partitioning threshold concentration (mg/kg)
cVOC	chlorinated volatile organic compound
DA	Drum Area
DO	dissolved oxygen
DOC	dissolved organic carbon
DNAPL	dense non-aqueous phase liquid
DPT	direct-push technology
DRA	Dump Road Area
DRO	diesel-range organics
ECD	electron capture device
EGIS	environmental geographic information system
EM	electromagnetic
FAA	Federal Aviation Administration
f_{oc}	fraction of organic carbon (unitless)
ft/day	feet per day
F*s*	sleeve friction
g/cm^3	grams per cubic centimeter
GPR	ground-penetrating radar
GPS	global positioning system

GRO	gasoline-range organics
GSP	Greater Strawberry Point
H'	Henry's Constant (unitless)
HASP	health and safety plan
HI	hazard index
IDW	investigation-derived waste
J	estimated concentration
K_d	soil-water partition coefficient (milliliters per gram) ($Kd = K_{oc}f_{oc}$)
K_{oc}	organic carbon-water partition coefficient (milliliters per gram)
L	result biased low
LNAPL	light non-aqueous phase liquid
Lockheed Martin	Lockheed Martin Corporation
MAA	Maryland Aviation Administration
MDANG	Maryland Air National Guard
MDE	Maryland Department of the Environment
mg/kg	milligram(s) per kilogram
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
MIP	membrane-interface probe
MRC	Middle River Complex
MSA	Martin State Airport
mV	millivolt(s)
NAVD 1988	North American Vertical Datum of 1988
NJ	tentatively identified compound
NOAA	National Oceanic and Atmospheric Administration
ORP	oxidation reduction potential
PA	preliminary assessment
PAH(s)	polycyclic aromatic hydrocarbon(s)
PCB(s)	polychlorinated biphenyl(s)
PCE	tetrachloroethene
PDF	portable document file
PHA	Petroleum Hydrocarbon Area
Ø	effective porosity (unitless)
PID	photoionization detector
PM	project manager
PPE	personal protective equipment
PVC	polyvinyl chloride

pVOC	petroleum volatile organic compound
QA/QC	quality assurance/quality control
Q_c	cone bearing or tip resistance
Rf	friction ratio
RI	remedial investigation
RSL	regional screening level
ρ_b	dry soil bulk density (grams per cubic centimeter)
ρ_N	DNAPL density (grams per cubic centimeter)
SBT	soil behavior type
SBTn	normalized soil behavior type
SP	Strawberry Point
S_r	threshold DNAPL saturation
SVOC	semivolatile organic compound
TCE	trichloroethene
TCLP	toxicity characteristic leaching procedure
Tetra Tech	Tetra Tech, Inc.
θ_w	water-filled porosity (unitless) from moisture content
θ_a	air-filled porosity (unitless)
TOC	total organic carbon
TPH	total petroleum hydrocarbon(s)
TT	Taxiway Tango
TT East	Taxiway Tango Area East
TT Median Area	Taxiway Tango Median Anomaly Area
TT North	Taxiway Tango Area North
TT South	Taxiway Tango Area South
u	pore water pressure
U	not detected
UJ	analyte not detected; quantitation/detection limit is greater than reported value
UR	analyte not detected; result not reliable
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VC	vinyl chloride
VOC	volatile organic compound

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Section 1
Introduction

On behalf of Lockheed Martin Corporation (Lockheed Martin), Tetra Tech Inc. (Tetra Tech) has prepared the following report documenting the 2012 investigation to further identify and evaluate the horizontal and vertical extent of volatile organic compounds (VOCs) in possible source areas of the Dump Road Area (DRA) site at Martin State Airport (MSA) in Middle River, Maryland. Work completed in 2012 is based on tasks and historical results described in the *Dump Road Source-Areas Investigation Work Plan* (Tetra Tech, 2012a). This report also identifies and describes possible volatile organic compound source areas in soil and groundwater using both 2012 and historical data collected at the site. In addition to soil and groundwater chemical data, the results of screening tools such as geophysical surveys, membrane-interface probe (MIP) analyses, probe soil and groundwater data, and test pits (i.e., soil excavations) are included herein to assess and describe possible source areas, identify data gaps, and evaluate whether additional actions are required to fully characterize the possible source areas. Figure 1-1 shows the locations of Martin State Airport and the Dump Road Area.

Lockheed Martin Corporation is also conducting environmental investigations at Frog Mortar Creek, Strawberry Point (SP), Greater Strawberry Point (GSP), and the Main Terminal area of Martin State Airport. However, these sites are being addressed separately from the Dump Road Area and are not included in this report. Tetra Tech, Inc. prepared this document for Lockheed Martin Corporation as part of continuing environmental investigations at Martin State Airport conducted under the oversight of the Maryland Department of the Environment (MDE) Controlled Hazardous Substances Enforcement Division, formerly the state Superfund program.

This report is organized as follows:

Section 2—Site Background: Presents an overview and history of the site and describes surface and subsurface conditions observed in the field during investigations to date. This section also describes the regional geology and hydrogeology, as determined from site soil borings and the scientific literature.

Section 3—2012 Investigation Approach and Methodology: Describes the 2012 investigation's technical approach and field methodologies.

Section 4—2012 Investigation Results: Discusses data evaluation and results for the 2012 investigation and the distributions of primary site contaminants.

Section 5—Source Areas Evaluation Methodology: Discusses the methods used to evaluate source areas for chlorinated and petroleum volatile organic compounds at the Dump Road Area.

Section 6—Source Areas Characterization: Describes site conditions and past operations and evaluates the current distributions of volatile organic compounds in possible source areas.

Section 7—Summary: Summarizes the major findings presented in Sections 4 and 6.

Section 8—References: Cites references used in compiling this report.

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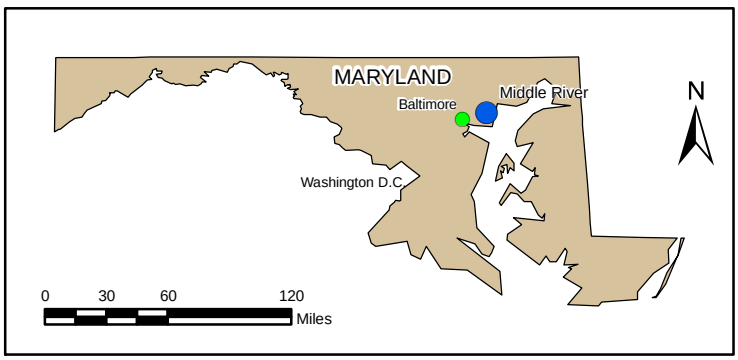

FIGURE 1-1

MARTIN STATE AIRPORT AND DUMP ROAD AREA LOCATION MAP

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
10/05/11	MP

TETRA TECH

Section 2
Site Background

2.1 SITE DESCRIPTION

2.1.1 Location

Martin State Airport (MSA) is at 701 Wilson Point Road in Middle River, Maryland, and is bounded by Frog Mortar Creek to the east and Stansbury Creek to the west (Figure 2-1). Both creeks are tidal tributaries of the Chesapeake Bay and join the bay at the south side of the airport. The Dump Road Area (DRA) is in the southeastern portion of MSA and is bounded by Frog Mortar Creek to the east and the airport runway to the west. Although the area has been investigated since the 1990s, Lockheed Martin Corporation (Lockheed Martin) recently designated the site as the DRA to distinguish it from other MSA areas under investigation (e.g., Frog Mortar Creek, Strawberry Point [SP], Greater Strawberry Point [GSP], and the Main Terminal area).

2.1.2 History

The current MSA property was part of the Glenn L. Martin Company's original 1,260-acre property, which previously included both the MSA and the manufacturing portion of the original facility now known as Lockheed Martin's Middle River Complex (MRC) (see Figure 2-1). In the spring and summer of 1929, the Glenn L. Martin Company purchased six parcels of land from private landowners. During the 1940s and 1950s, nine additional parcels were acquired from private landowners; together these parcels comprise the current areas of MSA and the MRC.

In 1932, the B-10 bomber was one of the first aircraft produced at the Glenn L. Martin Company Baltimore facility. Three runways, Hangars 1–3, and the airport administration building were built at the MSA in 1939 and 1940. Hangars 4–6 and the SP Hangar were completed in 1940 and 1941. After World War II, commercial transports and jet aircraft were produced at the manufacturing portion of the facility. In July 1955, the Maryland Air National Guard (MDANG) 104th Tactical Fighter Group began leasing property from the Glenn L. Martin Company. On

April 1, 1960, the 135th Tactical Airlift, previously based in Baltimore, was transferred to MSA, and by October 1962, the 104th Tactical Fighter Group had been reorganized and designated the 175th Tactical Fighter Group.

The Glenn L. Martin Company consolidated with American Marietta Corporation in September 1961 to form Martin Marietta Corporation. On September 20, 1975, the Maryland Aviation Administration (MAA) purchased 747 acres that are now used as the airfield, of which 175 acres in the northeastern portion are now leased to MDANG. In 1995, Lockheed Corporation and Martin Marietta merged to form Lockheed Martin Corporation. Lockheed Martin, northwest of the airport, occupies 338 acres of the original 1,260 acres at the MRC, and is currently conducting environmental investigations and remediation at MSA and the MRC.

2.1.3 Current Conditions

MAA currently operates MSA on behalf of the Maryland Department of Transportation. MSA has an administration building (Main Terminal building), aircraft hangars, a 7,000-foot long runway, several taxiways, and the SP Hangar. MAA manages more than 130,000 square feet of heated hangar space and 190 smaller aircraft T-hangars. The southwestern portion of MSA contains numerous aboveground fuel storage tanks for Jet A and Avgas 100LL fuels. MSA is also home to more than 20 commercial tenants providing fuels and lubricants, helicopter avionics repair, and flight instruction, in addition to hosting Baltimore County Police aviation and marine units and the Glenn L. Martin Museum (MAA, 2012).

The DRA consists mostly of mowed grass surrounding Taxiway Tango and the runway, heavily wooded areas in the northern, eastern, and southeastern portions of the site, and open meadows in the east–central and southeastern portions of the site (Figure 2-2). The DRA also includes portions of Taxiway Tango and the airport runway and two small ponds (Ponds 1 and 2), and a larger wetland area west of Frog Mortar Creek. An earthen berm is also in this area; it was constructed at the mouth of a former cove that was backfilled during the 1950s (Figure 2-2). Site topography is generally flat and slopes gently to the northeast toward Frog Mortar Creek. Along the Frog Mortar Creek shoreline lies a steeply sloped embankment comprised of fill placed there as part of airport construction.

2.1.4 Land Use

MSA is generally characterized as a moderately developed tract in a largely suburbanized, moderate density, populated setting. Land use surrounding MSA is, to a significant degree, a combination of mixed suburban, industrial, commercial, lightly to moderately developed tracts, and woodland tracts. The northern boundary of MSA is bordered by Eastern Boulevard (Maryland Route 150) and Amtrak railroad lines.

Undeveloped woodland tracts and low-density residential properties are north of MSA and the Amtrak line. The MSA's eastern, southern, and western boundaries are bordered by Frog Mortar Creek and Stansbury Creek, which are wide, brackish, tidal tributaries of the middle Chesapeake Bay. The MRC lies along MSA's northwestern boundary. The Old Navy Depot-Bengies (Plant 2) is across from the MSA on Eastern Avenue. Low-to-medium-density residential and light commercial land uses (e.g., shopping centers, convenience stores, restaurants, etc.) are beyond the creeks east, south, and west of MSA. Farther east and west of MSA are the high-density residential communities of Bengies Corner and Hawthorne Park. The town of Middle River is approximately 1.5 miles northwest of MSA.

2.1.5 Climate

The MSA has a humid, temperate climate, with hot humid summers and relatively mild winters. The Middle River, Maryland area receives an average of 42 inches of precipitation annually, distributed evenly throughout the year. Rainfall normally occurs in the summer as showers and thunderstorms. In winter, precipitation is typically light to heavy rainfall or snow. Tropical storms in late summer and fall and occluded, meso-scale frontal systems (i.e., coastal low pressure systems) in winter and spring occasionally provide short-term above average precipitation.

2.1.6 Physiography

MSA is in the western shore of the Coastal Plain physiographic province. The Coastal Plain consists of sediments composed of alluvium from the Pleistocene Epoch and the Potomac Group from the Cretaceous Period. Coastal Plain sediments begin at the Fall Line and follow a regional dip to the southeast at approximately 110 feet per mile (Hansen and Edwards, 1986). The Fall Line is the division between the Piedmont and Atlantic Coastal physiographic provinces. Its

name refers to an imaginary line connecting changes in stream flow characteristics between the hard-rock upland areas of the Piedmont and the soft-sediment lowland areas of the Coastal Plain. The Coastal Plain is generally characterized by low topographic relief. However, steep embankments and hills are found along stream channels, rivers, and Chesapeake Bay.

2.1.7 Topography

Most of MSA's land surface is generally flat to gently sloping in the areas of the runway, taxiways, and surrounding support operations (Figure 2-3). The MSA runway forms a trending topographic ridge, or drainage divide, that slopes gently from the northwest end to the southeast end. Runway elevations range from slightly more than 20 feet above the North American Vertical Datum of 1988 (NAVD 1988) at the northern end to slightly more than 10 feet above NAVD 1988 in the DRA area and at the southern end. The land slopes away from the runway toward Frog Mortar Creek to the northeast, and Stansbury Creek to the southwest.

In the northern portion of the DRA, land elevations range from approximately 11 feet above NAVD 1988 near the runway to approximately seven feet above NAVD 1988 at Pond 2. In the southeastern portion of the site near Frog Mortar Creek, land elevations are approximately 20 feet above NAVD 1988 at a mounded area near the creek embankment. The elevation at the top of the creek embankment ranges from approximately 10 feet above NAVD 1988 at the northern portion of the DRA to approximately 20 feet above NAVD 1988 in the southern portion. Land surface elevation at the Frog Mortar Creek shoreline is near zero feet, relative to NAVD 1988.

2.1.8 Surface Water Hydrology

The eastern, southern, and western boundaries of MSA are bordered by Frog Mortar Creek and Stansbury Creek, which are wide, brackish, tidal tributaries of the middle Chesapeake Bay. Surface water runoff from MSA enters these creeks via localized gullies in the eastern and western undeveloped portions of the site, or via storm sewers that drain the airport runway, taxiways, and developed portions of the facility. MSA encompasses 47 drainage areas in three watersheds, forming a total drainage area of 700 acres (MAA, 2008). The airport drainage areas range from seven to more than 170 acres.

In the DRA, six drainage areas drain the runway, taxiways, and wooded areas, discharging to Frog Mortar Creek on the east side of MSA. The DRA has two small ponds, wetlands, and a

stormwater management pond is near the fire pump house in the western portion of MSA. These ponds and the wetlands in the DRA are contained within each drainage area and do not discharge to Frog Mortar Creek. The stormwater pond near the fire pump house discharges to the upper reaches of the Stansbury Creek tidal area.

All storm water runoff originating from MSA discharges to outfall areas that are monitored monthly to ensure that no oily discharges to surface water occur. Secondary containment drains are also routinely inspected and emptied of storm water. The facility maintains a General National Pollutant Discharge Elimination System Permit (No. MDR 05501, General Discharge Permit No. 05-SF-5501), with an effective date of November 12, 2004 and an expiration date of November 12, 2009. However, the current permit remains in effect because the Maryland Department of the Environment (MDE) has administratively extended it until they issue a new general permit.

The site's general industrial permit has no monitoring requirements. However, limited monitoring is performed as part of the separate municipal storm-sewer system permit required for the federal Illicit Discharge Detection and Elimination program. This limited monitoring includes laboratory analysis for ammonia, dissolved oxygen, surfactants, fecal coliform, potassium, water temperature, conductivity, pH, and fluoride concentrations in monitored outfalls during annual inspections. Visual inspections are routinely performed and annual reports are submitted to MDE.

2.1.9 Geology and Hydrogeology

MSA is in the western shore of the Coastal Plain physiographic province. Regional and local studies (Vroblesky and Fleck, 1991; Chapelle, 1985) indicate that MSA lies on the Patapsco Formation. This formation consists of complex and interbedded mixtures of gray, brown, and red sands, silts, and clays originating from sediment deposition in a low coastal plain traversed by low-gradient meandering streams. Below the Patapsco Formation lies a regionally extensive thick-clay confining-unit known as the Arundel Formation. It is a massive and probably impermeable unit underlying the site and surrounding area.

The Arundel Formation outcrops northwest of the site and dips and thickens to the southeast. The Arundel Formation extends as far east as Cambridge, Maryland, where it is more than 600 feet

thick. Regional lithologic information indicates that the Arundel Formation may be up to 150 feet thick at MSA (Vroblesky and Fleck, 1991; Chapelle, 1985). The formation probably acts as an impermeable barrier to the downward movement of any constituents found in the surficial aquifer. The base of the Arundel Formation (i.e., the top surface of the deeper Patuxent Formation) is approximately 225 feet below NAVD 1988 near MSA (Vroblesky and Fleck, 1991; Chapelle, 1985). The depth to the base of the Arundel Formation may therefore range from 235-255 feet below grade at MSA.

Below the Arundel Formation is the Patuxent Formation. The Patuxent Formation is a multi-aquifer unit comprised of various interbedded sand and silt/clay layers and rapid changes of deposited material types over short distances. Permeable sand-rich units range from bounded sand sheets to isolated sand bodies (Glaser, 1969). In the MSA area, potentiometric maps of the Patuxent Formation indicate groundwater flows to the south and southwest, in response to industrial wells withdrawing water southwest and west of the site (Chapelle, 1985 and Curtin, 2006).

2.1.10 Vicinity Subsurface Conditions

An extensive subsurface investigation at the DRA is ongoing. Less extensive environmental investigations have been conducted at SP and GSP, which are south and southwest of the DRA. As part of the DRA investigation, numerous shallow and deep soil borings have been advanced to collect soil samples for subsurface lithologic information. Synoptic water-level measurements, single-well permeability tests, and pumping tests have been conducted to characterize subsurface hydraulic conditions at the DRA. Figure 2-4 is a fence diagram of the generalized geology at the DRA, based on the lithology encountered in the course of subsurface investigations.

Early studies at the DRA indicated that the subsurface hydrogeology is comprised of a surficial aquifer (i.e., the Patapsco Formation) containing highly heterogeneous mixtures of unconsolidated sand, silt, gravel/sand mixtures, and clay. A layer of fill consisting of heterogeneous sand, silt, and clay overlies these native sediments. For data evaluation and correlation, the surficial aquifer is divided into upper, intermediate, and lower surficial aquifer zones. The lower surficial aquifer zone is encountered up to approximately 45–73 feet below NAVD 1988, and overlies at least several feet of stiff, dense clay.

A deep groundwater study investigated the lithology beneath the lower surficial aquifer in the DRA of MSA (Tetra Tech, Inc. [Tetra Tech], 2009a). Lithologic data from four deep wells indicate six to 40 feet of clay beneath the lower surficial aquifer. Deep well logs also indicate alternating sand and silt aquifers and clay aquitards beneath the lower surficial aquifer. These sandy units are referred to as the deep confined aquifer zones.

2.2 AREAS OF CONCERN

The DRA investigation area was initially identified in a 1989 preliminary assessment (PA) of the airport (MDE, 1989). As documented in the 1989 PA of the airport, the MSA facility manager stated that former aircraft facility employees had told him that spent battery acid, acid-type strippers, and other acidic solutions had been routinely dumped into three ponds or "acid pits" east of Taxiway Tango. The former aircraft facility employees also told the MSA facility manager that dredge spoils and construction debris had been disposed of in these ponds. The PA investigation did not include follow-up work at the acid pits.

In July 1991, four drums containing dried zinc-chromate paint were uncovered during installation of underground electric cables adjacent to Taxiway Tango (see Figure 2-2). This discovery prompted MDE to order MAA to conduct additional studies of the Taxiway Tango area. Early investigations from 1991–1996 initially identified four areas of concern known as the Taxiway Tango Median Anomaly Area (TT Median Area), the Drum Area (DA), two ponds (Pond 1 and Pond 2), and the Petroleum Hydrocarbon Area (PHA). These four areas, shown in Figure 2-2, became the focus of subsequent studies when chemical constituent impacts to soil, pond sediment, and groundwater became apparent. Brief descriptions of these four areas follow:

- *Taxiway Tango Median Anomaly Area*—This area, located between Taxiway Tango and the airport runway, northwest of Taxiway D, is where four buried drums containing dried zinc-chromate paint were unearthed and removed in 1991. A construction drawing indicates fill and trash, and an initial geophysical survey indicates several electromagnetic (EM) anomalies, suggesting buried metal. Sampling and chemical analyses have identified elevated concentrations of volatile organic compounds (VOCs) in unsaturated soil and groundwater in this area. Primary VOCs in this area include the chlorinated VOC (cVOC) trichloroethene (TCE) and its degradation products *cis*-1,2-dichloroethene (*cis*-1,2-DCE) and vinyl chloride (VC). Petroleum VOCs (pVOCs) such as benzene, toluene, ethylbenzene, and xylenes (BTEX) and chlorobenzene are also in soil and groundwater in this area.

- *Drum Area*—In the forested area near wells MW-2 and MW-5, northeast of Taxiway Tango, several drums were uncovered when surface vegetation was cleared during a 1996 site investigation. Sampling and chemical analyses have identified elevated concentrations of cVOCs and lower concentrations of pVOCs in unsaturated soil and groundwater in this area.

- *Two ponds*—Historical records indicate that acids and other chemicals may have been discharged at the present locations of Pond 1 and Pond 2 (approximately 450 feet and 600 feet northeast of Taxiway Tango, respectively) sometime during the 1940s through the 1960s. Sampling and chemical analyses have identified elevated concentrations of cVOCs, pVOCs, and polychlorinated biphenyls (PCBs) in shallow Pond 1 sediment. Sampling and chemical analyses of Pond 2 indicates only low concentrations of pVOCs in sediment.

- *Petroleum Hydrocarbon Area*—The PHA is approximately 200 feet west of the ponds. Petroleum hydrocarbons were encountered while drilling a soil boring in this area during the 1996 site investigation. Sampling and chemical analyses have identified elevated concentrations of cVOCs and pVOCs in unsaturated soil and groundwater in this area.

Investigations at the DRA to date (see Appendix A) have identified a large area (over approximately 25 acres) of soil fill and buried debris east of the airport runway, extending to the base of the embankment at Frog Mortar Creek (see light brown shading in Figure 2-2). The fill material consists of soil, stained soil, and debris, the latter of which is comprised of concrete rubble and disposed industrial items (e.g., batteries, deteriorated drums, tires, paint cans, burned items, sludge, buckets, glass, wood, etc.). Investigations of this fill identified areas of soil containing VOCs and other contaminants such as polycyclic aromatic hydrocarbons (PAHs), PCBs, and metals resulting from past dumping and backfilling practices at the DRA.

VOCs, PAHs, and metals are present at concentrations exceeding human health risk screening levels in DRA soil and pond sediment. Large VOC plumes have formed in groundwater in the upper, intermediate, and deep portions of the surficial aquifer east of the airport runway, extending to Frog Mortar Creek. In groundwater, TCE, *cis*-1,2-DCE, VC, BTEX, 1,4-dioxane, and metals are at concentrations exceeding Maryland groundwater and drinking water standards (Figures 2-5 through 2-10). Common VOCs and metals in groundwater at the DRA (e.g., TCE, *cis*-1,2-DCE, VC, toluene, cadmium, and chromium) have been detected in Frog Mortar Creek water samples collected adjacent to the DRA (Tetra Tech, 2012b).

The *Dump Road Source Areas Investigation Work Plan* (Tetra Tech, 2012a) and *Technical Memorandum for the Dump Road Area, Source Area Delineation* (Tetra Tech, 2012c) identified

three additional areas of elevated VOCs in soil and groundwater that required further investigation. These areas were identified as:

- Taxiway Tango Area East (TT East)
- Taxiway Tango Area North (TT North)
- area east of Pond 1

These three areas and the four initial areas described above (e.g., TT Median Area, DA, etc.) are the primary focus of the current 2012 source area investigation.

A 2012 historical aerial photograph and document review (Tetra Tech, 2013a) conducted after the 2012 DRA fieldwork confirmed the location and use of Pond 1 as an acid and oil pit, and identified other operational features such as debris piles at the DA (feature #51 in Figure 2-11) and an open burning area and open pit at the TT East area (features #44 and #15 in Figure 2-11). Overall, the review of aerial photographs and drawings shows that the DRA was used as a dump during the 1950s. This review identified several pits. Photographs from the mid-1950s show black staining on the sidewalls and black material on the surface of two constructed pits, indicating dumping had occurred. Other historical site features that were interpreted from aerial photographs, and may aid in explaining current conditions at the DRA or be possible areas of concern, are shown in Figure 2-11. These historical features were identified as:

- *former Pond 3*—pond south of Pond 1: feature #2 in Figure 2-11
- *former open burning area and pit*—features #45 and #43 in Figure 2-11
- *former Ponds 5 and 6*—features #46 and #47 in Figure 2-11
- *DA former debris pile area*—feature #51 in Figure 2-11
- *DMW-4 former debris pile area*—feature #50 in Figure 2-11
- *Taxiway Tango South former disturbed area*—feature #53 in Figure 2-11
- *former Pond 7*—feature #42 in Figure 2-11 (currently a wetland)
- *former ammo bunkers*—features #20 and #26 in Figure 2-11 (same area as TT North)

The former ammo bunkers (features #20 and #26) are in TT North; feature #51 (former debris piles) is in the DA; and the former open burning area and pit (features #15 and #44) are in

TT East. Therefore, these historical features are combined with the previously identified TT North, DA, and TT East areas. These historical features are considered when discussing the results of all DRA chemical data in Section 6 of this report.

A cove once existed in the northern portion of the DRA before it was filled in the 1950s (see the blue-dashed outline of Limehouse Cove in Figure 2-11). Historical photographs show that the upper reach of Limehouse Cove was in the area of present-day Taxiway Tango; the upper portion was filled in between 1938 and 1945. Filling of Limehouse Cove continued into the 1950s, with much of the filling occurring in the mid-1950s. In a 1959 photograph, the cove appears completely filled in. Present day topography suggests that more than 10 feet of fill was placed in certain portions of the former cove area. The aerial photograph study also identified signs of grading and filling in areas south of the cove and in the Compass Rose Area.

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Main Terminal and Surrounding Features_revised 1 13 12.mxd)
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Source: Google Earth Pro, 2010

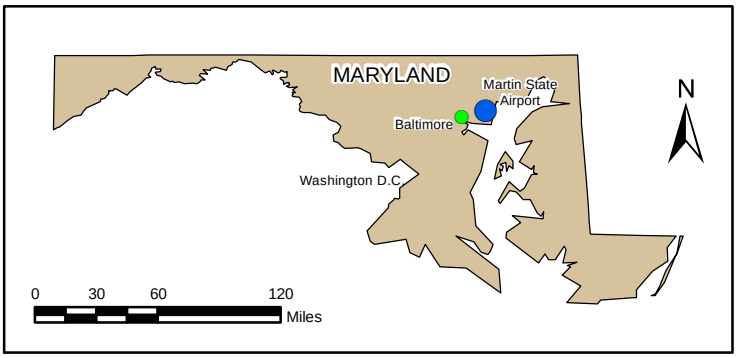

FIGURE 2-1

MARTIN STATE AIRPORT AND SURROUNDING FEATURES

Frog Mortar Creek
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
1/13/12	MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA MW and PZ_1994_1996_revised 032513.mxd)
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FIGURE 2-2

SITE FEATURES AND AREAS OF CONCERN
DUMP ROAD AREA

LEGEND

- GROUNDWATER MONITORING WELL (MW) AND PIEZOMETER (PZ), 1994 - 1996
- OUTLINE OF FORMER COVE
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- EARTHEN BERM
- EXTENT OF UNSATURATED CONTAMINATED SOIL AND LANDFILL MATERIAL
- POND

Lockheed Martin, Martin State Airport
Middle River, Maryland

0 60 120 240 Feet

N

DATE MODIFIED: 3/25/13

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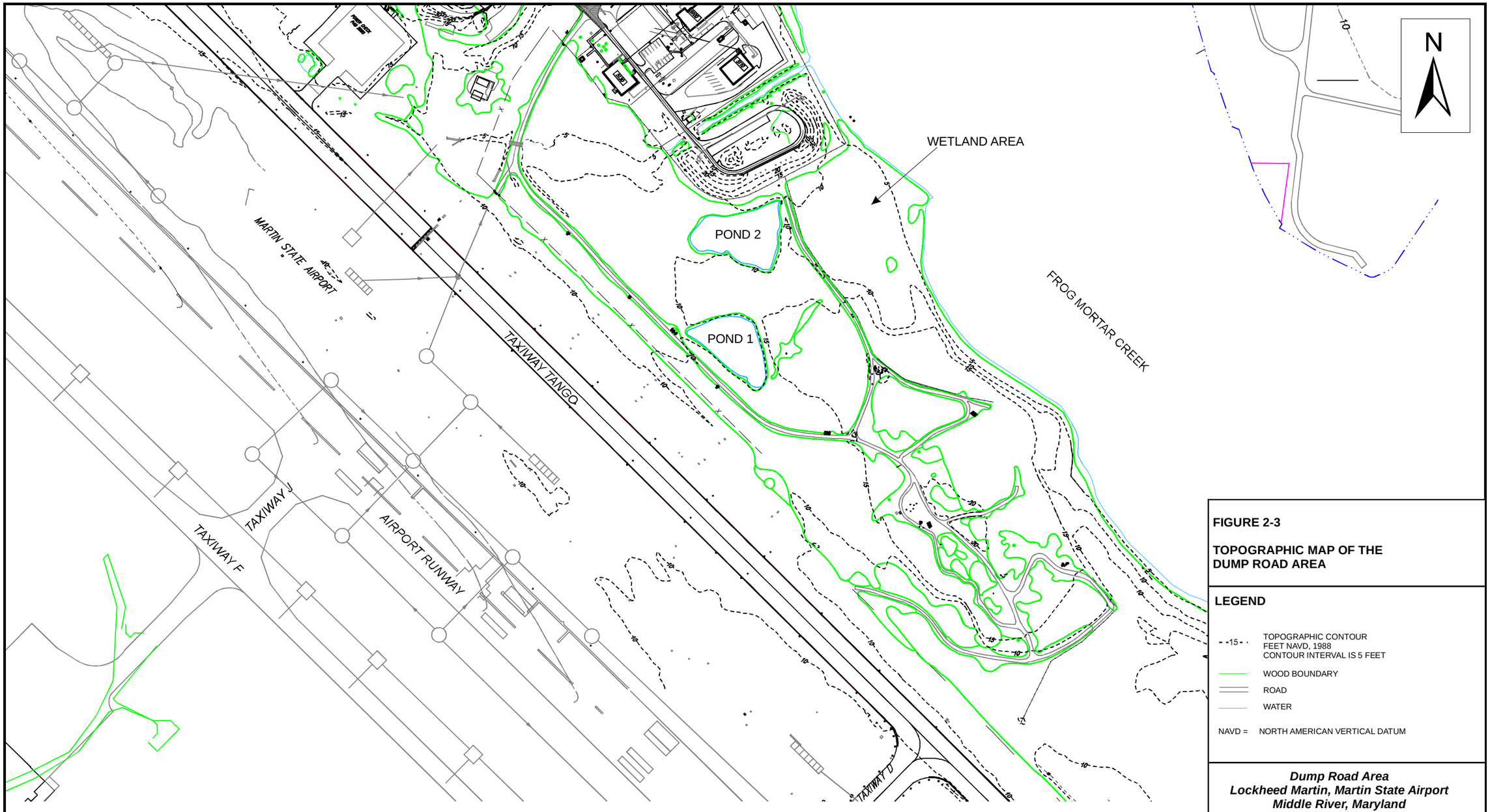

FIGURE 2-3

TOPOGRAPHIC MAP OF THE DUMP ROAD AREA

LEGEND

-15- TOPOGRAPHIC CONTOUR
FEET NAVD, 1988
CONTOUR INTERVAL IS 5 FEET

WOOD BOUNDARY

ROAD

WATER

NAVD = NORTH AMERICAN VERTICAL DATUM

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODIFIED: 3/27/13

CREATED BY: MP

TETRA TECH

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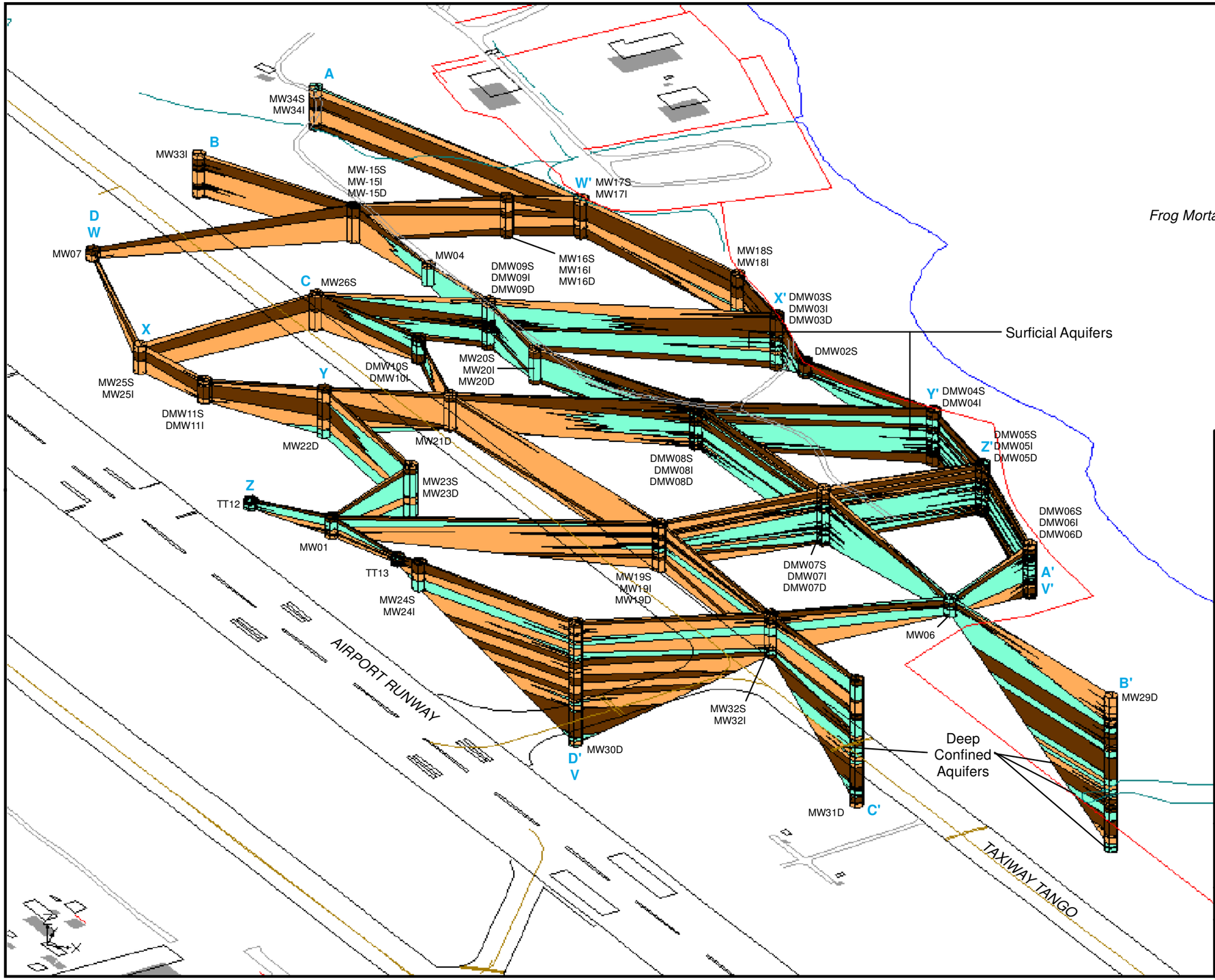

FIGURE 2-4

GEOLOGIC FENCE DIAGRAM OF THE DUMP ROAD AREA

LEGEND

MATERIALS

- HIGHER PERMEABILITY (TYPICALLY >10 FEET PER DAY): SAND AND SAND & GRAVEL
- MEDIUM PERMEABILITY (TYPICALLY 1-10 FEET PER DAY): MIXTURE OF SAND, SILT, AND/OR SOME CLAY
- LOWER PERMEABILITY (TYPICALLY <1 FEET PER DAY): CLAY AND SILT & CLAY

Hydrostratigraphic units were interpreted from lithology information of boring logs and slug test results.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODIFIED: 03/26/13

CREATED BY: JEE

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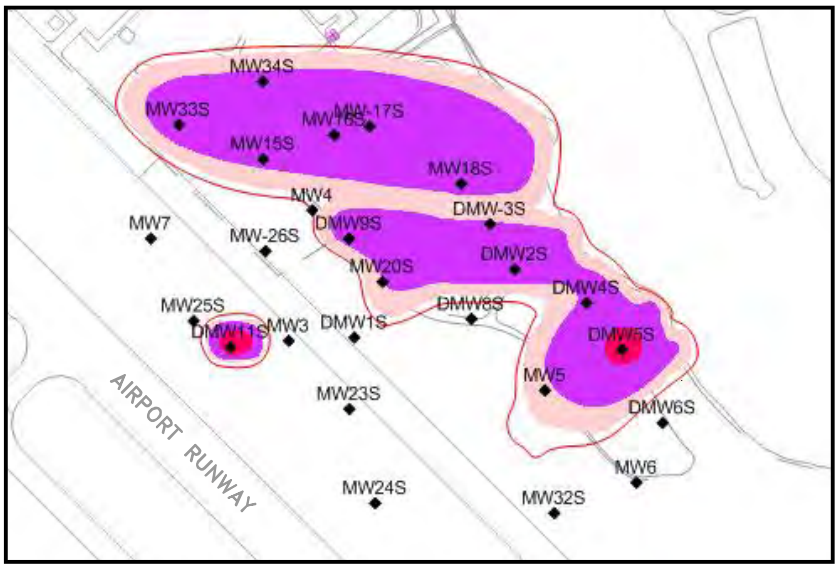

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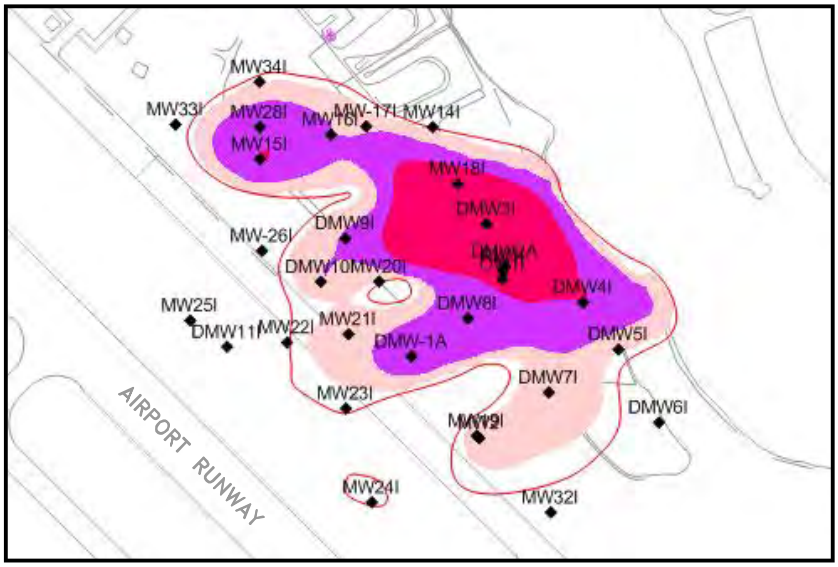

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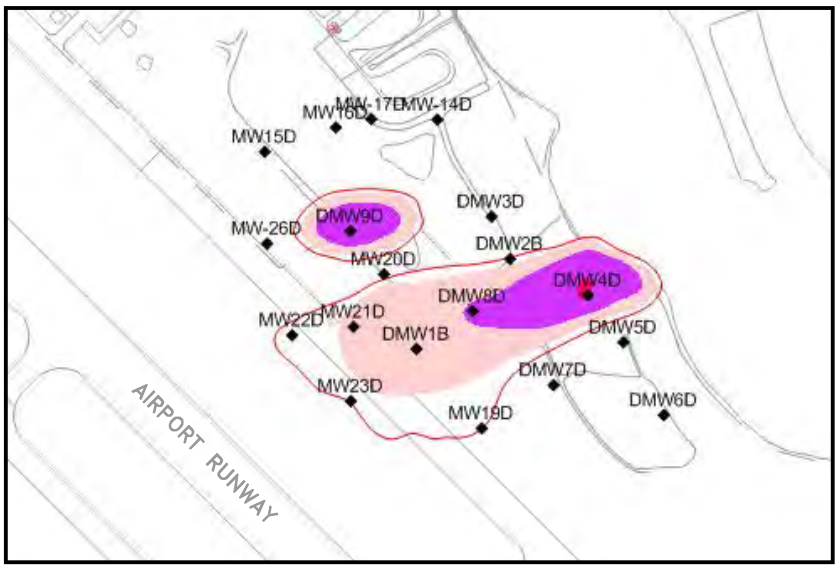
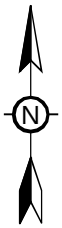
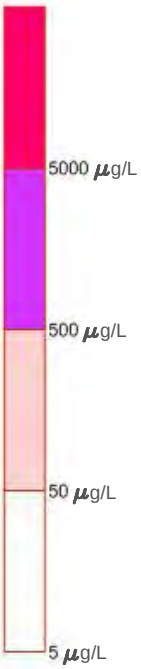


LOWER ZONE



TCE CONCENTRATION



ug/L = micrograms per liter
TCE = Trichloroethene

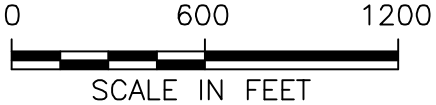


FIGURE 2-5

DISTRIBUTION OF TRICHLOROETHENE IN THE UPPER, INTERMEDIATE, AND LOWER ZONES OF SURFICIAL AQUIFER DUMP ROAD AREA - 2009

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODITFIED	CREATED BY
3/29/13	MP

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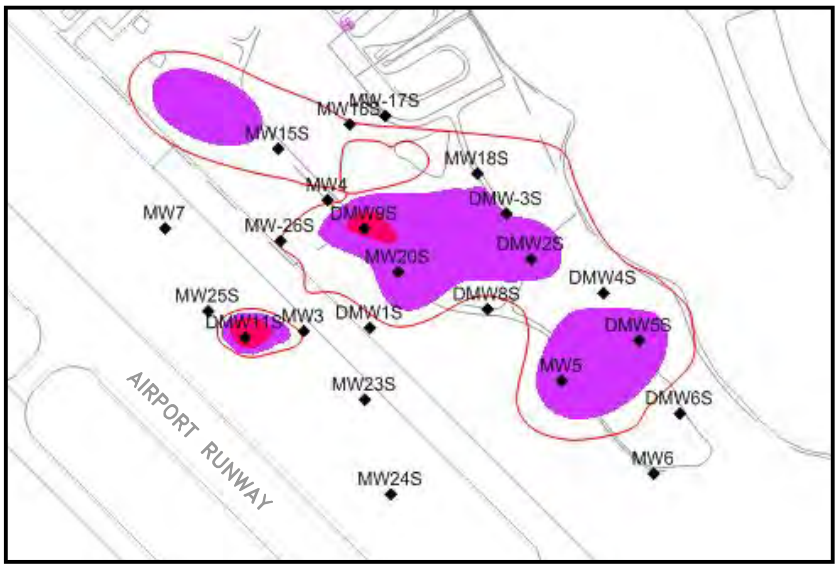

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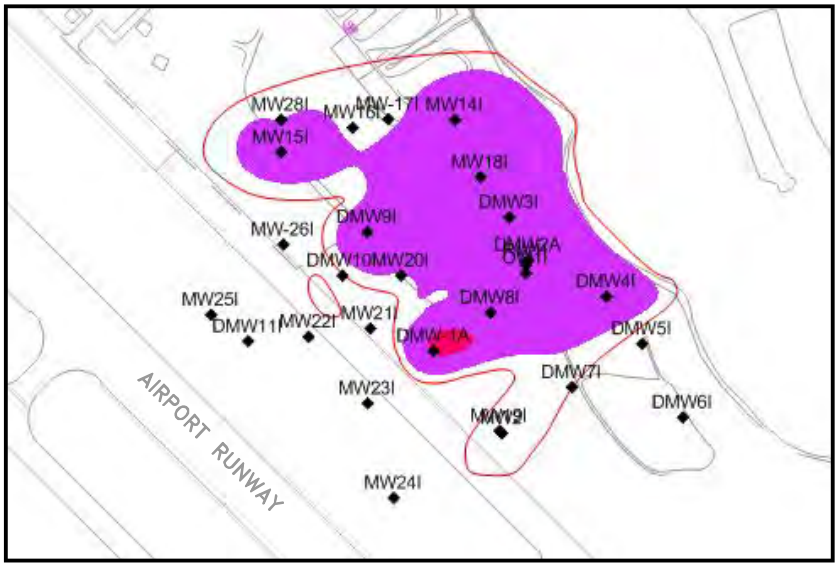

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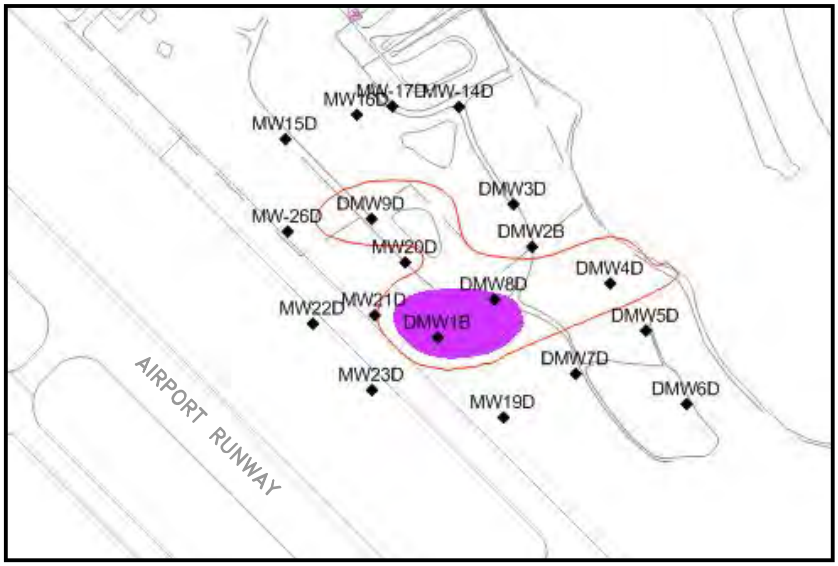
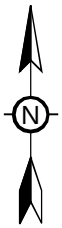
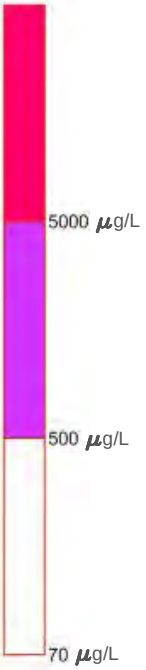


LOWER ZONE



CIS-1,2-DICHLOROETHENE CONCENTRATION



ug/L = micrograms per liter

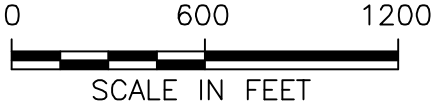


FIGURE 2-6

DISTRIBUTION OF CIS-1,2-DICHLOROETHENE IN THE UPPER, INTERMEDIATE, AND LOWER ZONES OF SURFICIAL AQUIFER DUMP ROAD AREA - 2009

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODITFIED	CREATED BY
3/29/13	MP

TETRA TECH

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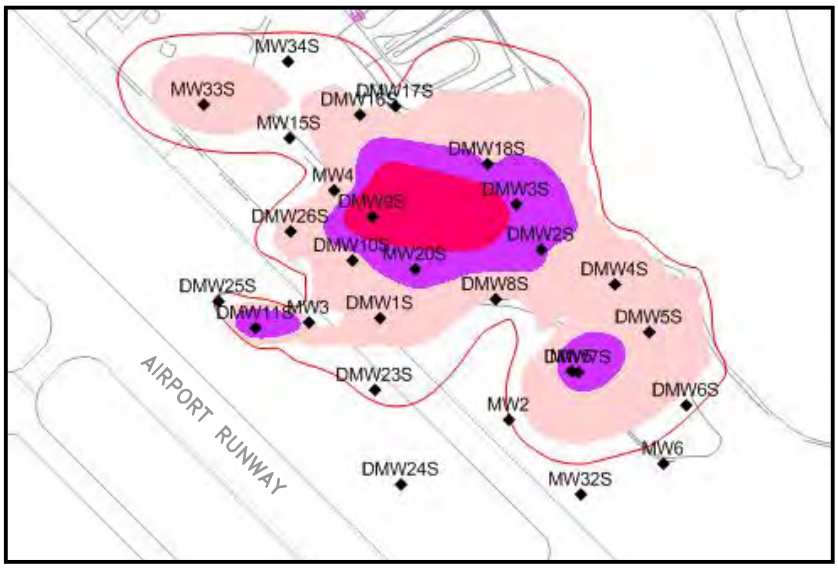

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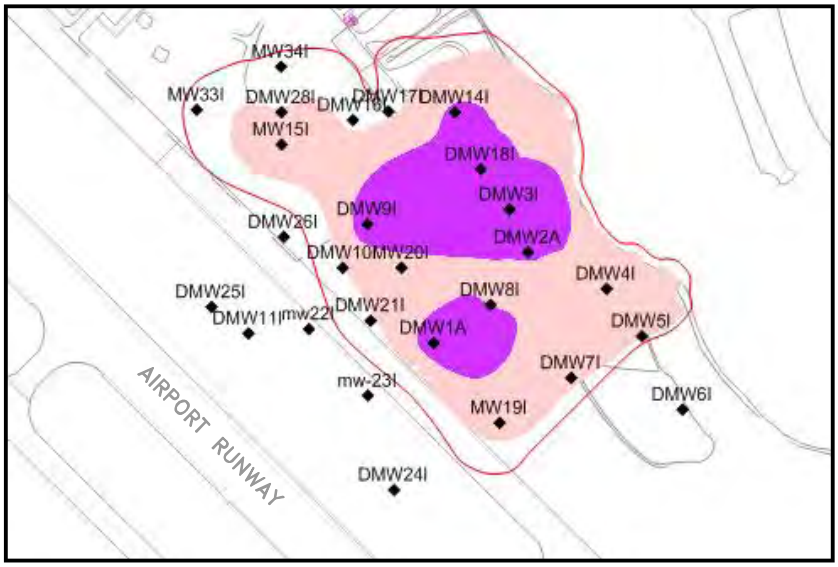

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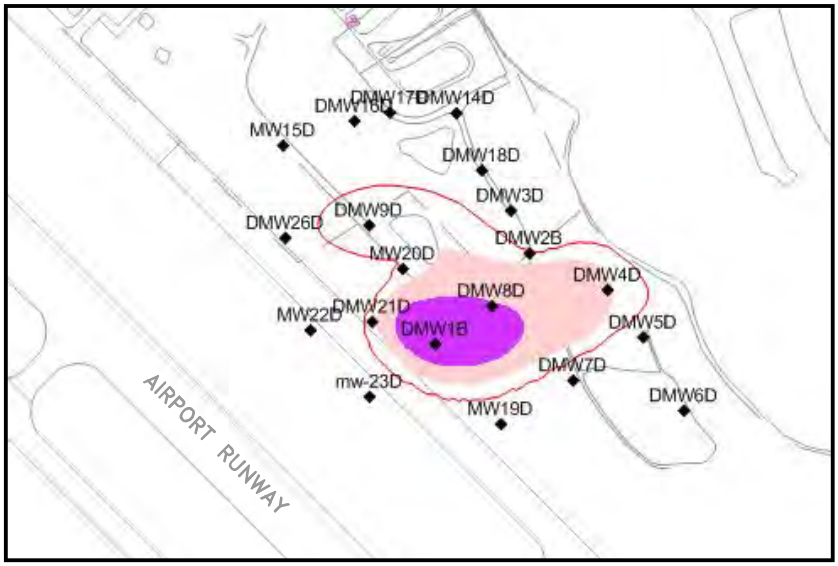
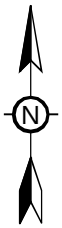


LOWER ZONE



VINYL CHLORIDE CONCENTRATION



ug/L = micrograms per liter

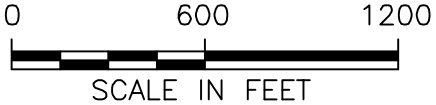


FIGURE 2-7

DISTRIBUTION OF VINYL CHLORIDE IN THE UPPER, INTERMEDIATE, AND LOWER ZONES OF SURFICIAL AQUIFER DUMP ROAD AREA - 2009

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODITFIED	CREATED BY
3/29/13	MP

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FIGURE 2-8

DISTRIBUTION OF BENZENE IN THE UPPER, INTERMEDIATE, AND LOWER ZONES OF THE SURFICIAL AQUIFER
DUMP ROAD AREA - 2012

LEGEND

- GROUNDWATER MONITORING WELL: CONCENTRATION EXCEEDS THE STANDARD
- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL: CONCENTRATION DOES NOT EXCEED THE STANDARD
- DEEP CONFINED AQUIFER WELL SAMPLED
- ABANDONED WELL
- WELL OR PIEZOMETER NOT SAMPLED FOR VOCS THIS ROUND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

J ESTIMATED VALUE BELOW REPORTING LIMIT

CONCENTRATION IN RED EXCEEDS THE STANDARD

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)

Benzene (standard = 5 ug/L)

For wells sampled, the absence of a results tag indicates the analyte was not detected.

(Not Sampled) - Indicates well not sampled if symbol is obscured for this well.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

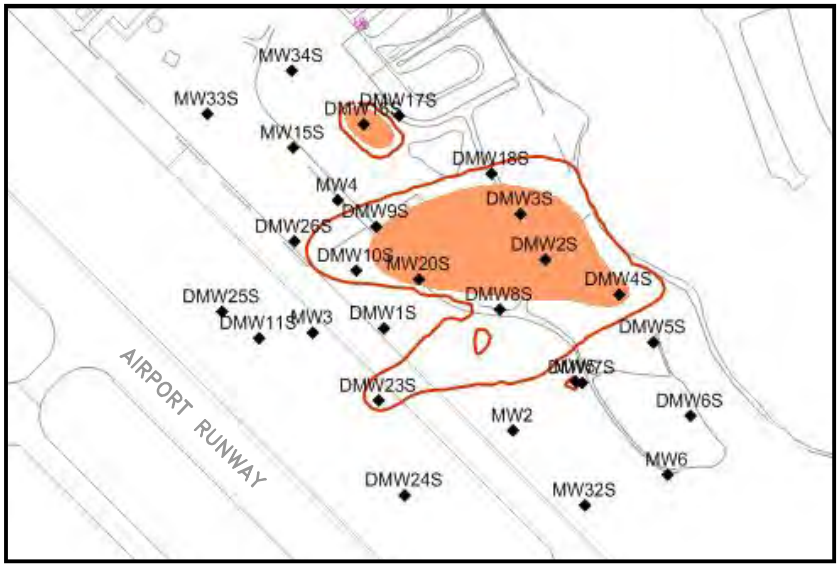
0 62.5 125 250 Feet

N

DATE MODIFIED: 7/31/12

CREATED BY: MP

TETRA TECH



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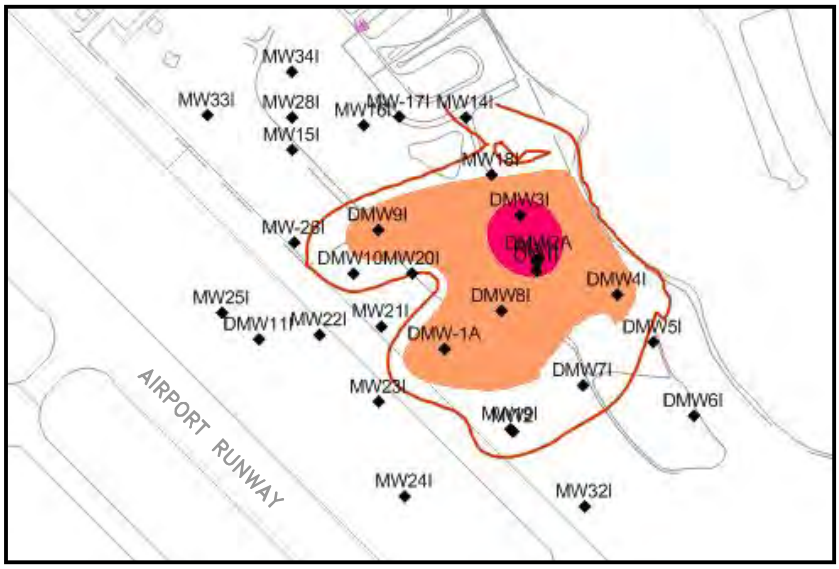

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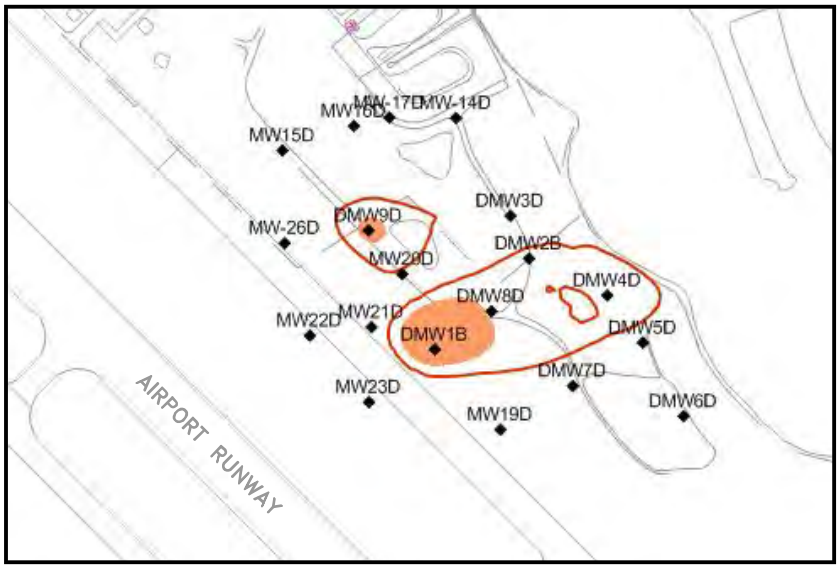
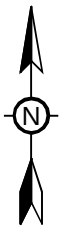


LOWER ZONE



1,4-DIOXANE CONCENTRATION



ug/L = micrograms per liter

0 600 1200

SCALE IN FEET

FIGURE 2-9

DISTRIBUTION OF 1,4-DIOXANE IN THE UPPER, INTERMEDIATE, AND LOWER ZONES OF SURFICIAL AQUIFER DUMP ROAD AREA - 2009

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODITFIED	CREATED BY
3/29/13	MP

TETRA TECH

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Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Cad_Nic_Van April_May 2012.mxd)
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FIGURE 2-10

CADMIUM, NICKEL, AND VANADIUM IN THE SURFICIAL AQUIFER EXCEEDING GROUNDWATER STANDARDS - 2012

LEGEND

- GROUNDWATER MONITORING WELL: ONE OR MORE CONCENTRATIONS EXCEED THE STANDARDS
- GROUNDWATER MONITORING WELL: CONCENTRATIONS DO NOT EXCEED THE STANDARDS
- DEEP CONFINED AQUIFER WELL SAMPLED
- ABANDONED WELL
- WELL OR PIEZOMETER NOT SAMPLED FOR METALS THIS ROUND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND
- J ESTIMATED VALUE BELOW REPORTING LIMIT

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)

Cadmium standard= 5 ug/l
Nickel standard= 73 ug/l
Vanadium standard= 3.7 ug/l

For wells sampled, only concentrations exceeding the standards are shown. The maximum of either the total and dissolved metal concentrations is shown.

Result in red indicates total metal concentration is shown. Result in black indicates dissolved metal concentration is shown. Result in blue indicates total and dissolved concentrations are equal.

(Not Sampled) - Indicates well not sampled if symbol is obscured for this well.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 60 120 240 Feet

N

DATE MODIFIED: 8/2/12

CREATED BY: MP

TETRA TECH

MW30D MW31D

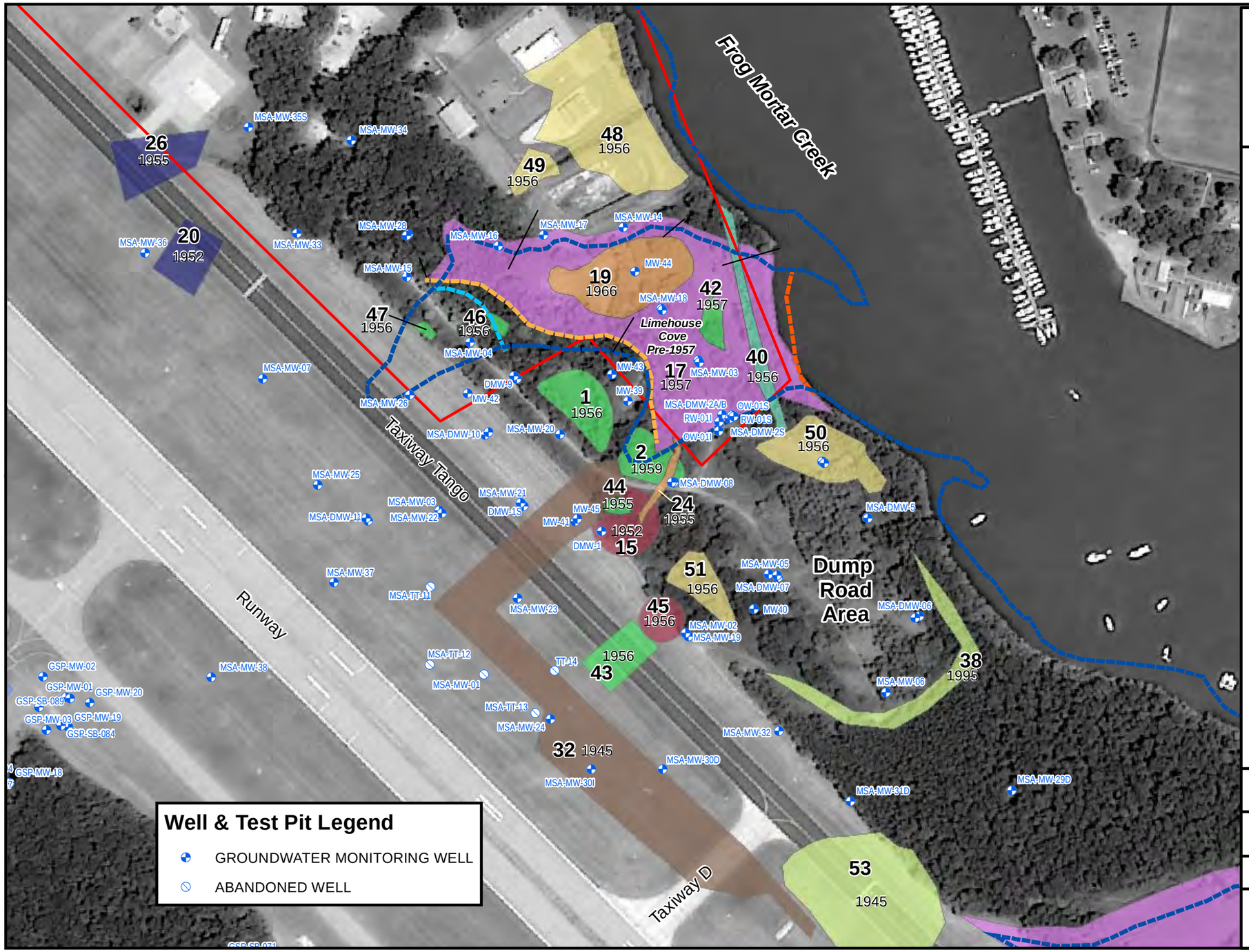

FIGURE 2-11

DUMP ROAD AREA
HISTORICAL FEATURES
MARTIN STATE AIRPORT

Legend

Historical Features

- Bermed Structure
- Bunker Ammo or Fuel
- Debris Piles
- Dike/Berm
- Dike/Berm Terraced
- Disturbed Earth
- Earthen Mound
- Fill
- Fuel Truck Bunker
- Open Burning
- Pond
- Pond/Pit

Site Area Boundary

- Maryland Air National Guard

Shorelines from Aerials

- 1959
- 1952
- 1945
- 1941
- 1938

NOTE: Locations of features 43 and 45 were taken from oblique aerials and are approximate in size and location.

Background Photo Source: USDA - July 27, 2011

Lockheed Martin, Martin State Airport
Middle River, Maryland

0 75 150 300 Feet

N

DATE MODIFIED: 1/17/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\historic Aerials\Historical Features DRA_wells_without test pits.mxd)
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Section 3
2012 Investigation Approach and Methodology

Tasks conducted in 2012 at the Dump Road Area (DRA) were intended to fill data gaps at the site and to further evaluate the extent of source areas of volatile organic compounds (VOCs) near the Petroleum Hydrocarbon Area/Ponds 1 and 2, area east of Pond 1, the Taxiway Tango Median Anomaly Area (TT Median Area), Taxiway Tango Area North (TT North), Taxiway Tango Area East (TT East), and the Drum Area (DA). These areas are shown in Figure 3-1. The 2012 DRA field program entailed the following activities:

- obtained utility clearances, an access agreement, and associated permits for intrusive investigations from Lockheed Martin Corporation (Lockheed Martin), Martin State Airport (MSA), the Maryland Aviation Administration (MAA), and the Federal Aviation Administration (FAA), as applicable, to conduct the planned field activities

- used both a cone penetrometer (CPT) drill rig fitted with a piezocone and a direct-push technology (DPT) drill rig to collect lithologic and pore water pressure data, along with discrete groundwater samples collected at five-foot intervals (minimum) to a depth up to 60 feet below grade

- installed seven groundwater monitoring wells to further characterize groundwater conditions; assess the direction of groundwater flow; determine aquifer parameters; assess contaminant concentrations (horizontally and vertically); and determine the source and extent of volatile chemicals of potential concern (COPC) detected in groundwater during the CPT investigation, as appropriate

- collected soil samples during drilling for the seven installed monitoring wells

- installed two shallow groundwater monitoring wells and two pond-stilling wells to characterize the hydraulic interconnectivity of the surface water in Ponds 1 and 2 and shallow groundwater. One groundwater monitoring well was installed downgradient of each pond (Ponds 1 and 2), and one stilling well was installed in each pond.

- collected one month of water level data from the two new groundwater monitoring wells and two new pond stilling wells

- collected water samples from the nine new groundwater monitoring wells and two new pond stilling wells

- collected eight sediment cores from Pond 1 and four sediment cores from Pond 2, all to a depth of two feet below the sediment surface; two sediment samples were collected from 0–1 foot and 1–2 feet at each core location

- collected six surface water samples from Pond 1 and two surface water samples from Pond 2

- performed laboratory chemical analyses of the soil, groundwater, surface water, and sediment samples

- surveyed the nine new groundwater monitoring wells and the two stilling wells in Ponds 1 and 2 using a Maryland-licensed surveyor

- collected, stored, and characterized investigation-derived waste (IDW) and disposed of it at an off-site Lockheed Martin-approved treatment/disposal facility

3.1 MOBILIZATION/DEMOBILIZATION

Tetra Tech, Inc. (Tetra Tech) procured the required subcontractors and began mobilization in June 2012. Mobilization included:

- coordinating site access with Lockheed Martin and MSA facilities personnel

- obtaining utility clearance for the proposed soil borings and groundwater monitoring wells, using both Miss Utility and a private utility-locating firm, as described in Section 3.2

- mobilizing subcontractors, equipment, personnel, and materials to the site

- implementing a site-specific health and safety plan (HASP)

- arranging a decontamination area

Demobilization activities included:

- demobilizing equipment and materials from the site

- performing general site cleanup and trash removal at work completion

- repairing landscaping, ground, and other surfaces as necessary at work completion

- managing IDW (as described in Section 3.10)

The Tetra Tech field operations leader coordinated the mobilization and demobilization, including inventorying equipment to ensure its availability, purchasing and leasing equipment as required, and staging equipment for efficient loading and transport to and from the site after each activity.

Appropriate Tetra Tech personnel familiarized themselves with the site-specific HASP and the respective safe work permits therein. Tetra Tech held mandatory health and safety tailgate meetings for all involved workers, including subcontractors, before each day's field events. All personnel working on-site received site-specific safety training from the Lockheed Martin safety manager. Subsequent to this training, subcontractors were issued a security pass allowing site access.

3.2 SITE ACCESS, PERMITS, AND UTILITY CLEARANCE

Tetra Tech obtained required access agreements and permits and completed required utility-clearance activities before starting fieldwork. Site preparation included:

- notifying the underground utility location center Miss Utility (1-800-257-7777; www.missutility.net)
- reviewing facility and site utility maps
- following Enterprise Operation 28 (Lockheed Martin, 2008) and the Lockheed Martin "digging authorization" form and obtaining the required signatures (Lockheed Martin, 2009). Activities described in this report were not carried out on Lockheed Martin-owned or operated property, so signatures of Lockheed Martin representatives were obtained at the discretion of the approving personnel.
- obtaining required permits from the Maryland Aviation Administration (MAA) (airport zoning permit, building inspection permit, and the digging authorization permit) for the proposed work before beginning any drilling activities
- obtaining monitoring well permits
- contracting a private utility locating firm (Enviroscan, Inc. of Lancaster, Pennsylvania) to identify and mark any subsurface utilities/anomalies

Tetra Tech worked closely with MSA, MAA, and their tenants to inform all parties of the field schedule. The project team conducted a site walk to observe current operations, structures, and ground conditions, including topography, vegetation, and ground-surface anomalies that could represent possible constraints on field activities.

Each drilling location was screened for subsurface utilities. In addition to calling in a Miss Utility ticket, Enviroscan, Inc. (Enviroscan) was contracted to mark any underground utilities and subsurface geophysical anomalies. This private utility-locating firm used typical utility-locating equipment representing the best available technology, including a Fisher TW-6 electromagnetic pipe and cable locator/tracer, a Radiodetection cable avoidance tool and Genny pipe and cable locator/tracer, a Radiodetection model RD4000 multi-frequency pipe and cable tracer, and a GSSI SIR-2000 ground-penetrating radar (GPR) system. All utilities within a 30-foot radius of each designated location were located and marked with paint on the ground.

Soil boring and monitoring well locations were offset as necessary based on the location of subsurface utilities. Borings were located at the minimum allowable distances from underground utilities, as stipulated in the HASP. Permits, the Miss Utility clearance, and the Enviroscan utility screening report are in Appendix B. Access to the DRA was coordinated through MSA operations. Tetra Tech maintained radio communication with the MSA air traffic control tower during field activities with regard to the daily field schedule.

3.3 FIELD METHODOLOGY

Methods used for the 2012 DRA field investigation are discussed in the following sections. Methods are provided for:

- CPT testing
- installation of groundwater monitoring and pond-stilling wells and associated soil sampling
- sampling and chemical analyses of soil, groundwater, pond surface water, and pond sediment
- DPT groundwater sampling
- collection of long-term groundwater and pond water levels

3.3.1 CPT/DPT Groundwater Investigation

To further characterize groundwater volatile organic compound (VOC) concentrations in the upper and intermediate portions of the surficial aquifer, Tetra Tech used a CPT drill rig fitted with a piezocone to collect continuous lithologic and pore water pressure data at 22 locations. CPT locations CPT-01 through CPT-22 are shown in Figure 3-1; the rationale for the CPT locations is summarized in Table 3-1. Locations were based on recommendations made within

the *Technical Memorandum for Dump Road Area Source Area Delineation* (Appendix A of Tetra Tech, 2012a). The target maximum CPT screening depth was 60 feet below grade at each location. However, several CPT borings were terminated at depths less than 60 feet due to probe refusal from dense sands and gravels or cemented ironstone.

At each boring, the following soil parameters were measured by CPT instrumentation: the pore water pressure (u), the cone bearing or tip resistance (Q*c*), and sleeve friction (F*s*). The latter two parameters are used to calculate the friction ratio (Rf). Soil parameters were measured at five-centimeter intervals during advancement, in accordance with ASTM International (ASTM) D5778-07. An onboard data acquisition system allowed for real-time evaluation of CPT data, including soil behavior type (SBT) and normalized soil behavior type (SBT_N). Copies of each CPT plot, including Q*c*, F*s*, U, SBT, and SBT_N, were provided in the field following each of the soundings.

The cone-penetrometer-test unit (CPTu) component of the test provided uniform, detailed stratigraphic logs of the soils encountered, together with estimated depths to groundwater. Information in the CPTu plots also helps estimate material hydraulic-conductivity and permeability. These CPT data were used to determine the collection depths of groundwater samples using hydraulically driven, stainless steel probes (i.e., the probe groundwater samples) that were advanced in the subsurface via a DPT rig. CPT sampling results are in Appendix C.

After the CPT borings were completed, discrete groundwater samples were collected for VOC chemical analyses from the same 22 locations via DPT, with DPT borings offset by several feet to provide a new borehole for the groundwater sampling. At each DPT location, groundwater samples were collected at approximately every five feet below the depth at which groundwater was first encountered, to a maximum target depth of 60 feet below grade. However, several DPT borings were terminated at depths less than 60 feet due to probe refusal.

Groundwater samples were collected using a reusable, three-foot long, stainless steel groundwater sampling probe fitted with a one-foot screen. The push rods and stainless steel sampling probe were decontaminated before each sample collection to minimize sample cross-contamination. After a groundwater sample had been collected at each location, the DPT

borehole was pressure grouted using a mixture of Portland cement and bentonite, which was pumped through a string of 0.75-inch diameter tremie pipes[1] installed from the work area to the bottom of the borehole. As grout filled the borehole, the tremie pipe was slowly raised to the ground, while keeping the tremie pipe opening below the level of the grout.

The DPT rig was used to collect groundwater samples (plus duplicate samples) for off-site laboratory analysis. A Maryland-certified analytical laboratory (Caliber Analytical, LLC of Towson, Maryland) performed the chemical analyses for groundwater samples. Caliber Analytical provided preliminary chemical results within 24-hours; groundwater samples were analyzed for VOCs using gas chromatography. Laboratory analytical results are in Appendix D.

3.3.2 Borehole Drilling and Monitoring Well Installation

Nine groundwater monitoring wells were installed at the DRA as part of this investigation. Soil samples were collected during well advancement. The purpose of these wells was to:

- further characterize groundwater conditions
- assess the direction of groundwater flow
- determine aquifer parameters
- evaluate hydraulic relations between ponds and groundwater
- assess contaminant concentrations horizontally and vertically in support of updating the conceptual site model
- determine the source and extent of COPC detected in groundwater during the CPT investigation

Three well couplets (MW-40S/I, MW-41S/I, and MW-42S/I) consisting of two wells each (one shallow depth “S” level and intermediate depth “I” level) were installed at three single borehole locations (six wells total). An additional three shallow wells (MW-43S, MW-44S, and MW-45S) were installed as single-level wells. Wells MW-40S/I, MW-41S/I, MW-42S/I, and MW-45S were installed at locations and depths where highly elevated VOC concentrations in groundwater were indicated by the results of the DPT groundwater investigation. Wells MW-43S and MW-44S were installed adjacent to and hydraulically downgradient of Pond 1 and Pond 2 to

[1] Large metal hoppers and pipes used to distribute freshly mixed concrete.

evaluate the hydraulic interconnectivity of these ponds and shallow groundwater. The locations of the new wells are shown in Figure 3-2.

Drilling and soil sampling—Well boreholes were advanced using the Roto-Sonic drilling method to provide drilling and well installation methods consistent with existing DRA monitoring wells. Boart-Longyear, Inc. of Marietta, Ohio conducted borehole drilling and well installation/construction under the supervision and direction of a Maryland-licensed driller. The Roto-Sonic method uses a four-inch by six-inch drill rod/override-casing configuration (with temporary casing) to install the well to the target depth. At each well boring, soil was continuously sampled during drilling via a four-inch-diameter by 10-foot-long core-barrel. Soil samples were collected for soil screening, including lithologic characterization, visual observations (e.g., staining, discoloration, etc.), and odor detection. Soil samples were screened for VOCs using a portable photoionization detector (PID) after placing the soil into a sealable plastic bag. The soils were described in a lithologic log prepared by a qualified and experienced geologist. The boring log forms are in Appendix E.

Soil samples were collected from well borings MW-40S/I, MW-41S/I, and MW-42S/I for laboratory chemical analyses. Sampling depths were based on the location of the water table, the CPT/DPT lithologic and groundwater VOC data, PID field-screening results, and evidence of possible contamination such as staining, discoloration, and odors. Five soil samples were collected from MW-41S/I and four were collected from both MW-40S/I and MW-42S/I, for a total of 13 soil samples collected at depths ranging from the ground surface at MW-42S/I to 46 feet below grade at MW-41S/I.

Samples collected from each boring are summarized in Table 3-2. Soil sample record sheets are in Appendix F. Soil samples were analyzed for the following:

- VOCs by United States Environmental Protection Agency (USEPA) SW846 Method 8260B
- total petroleum hydrocarbon (TPH)-gasoline-range organics (GRO) and -diesel-range organics (DRO) by USEPA SW846 Method 8015B
- total priority pollutant metals by USEPA SW846 Method 6010C and 7471B
- total organic carbon (TOC) by SW846 Lloyd Kahn

- pH by SW846 Method 9045

Sample DR-MW-41-6-7.5 (collected from six to 7.5 feet below grade) was also submitted for toxicity characteristic leaching procedure (TCLP) organics and inorganics by USEPA SW846 Method 1311. Trip blanks were provided by the laboratory. One trip blank was analyzed daily per cooler of VOC samples collected (three trip blanks were analyzed); no other quality assurance/quality control (QA/QC) samples were collected.

Monitoring well construction—Three well couplets, consisting of a shallow "S-interval" well and an intermediate "I-interval" well, were installed within three separate, single-well borehole locations. The deeper "I-interval" well screen for each well couplet was installed to a maximum depth ranging from 33 feet (MW-42I) to 54 feet (MW-41I). The shallower "S-interval" well screen for each couplet was installed at bottom depths ranging from 12 feet (MW-42S) to 35 feet (MW-41S). Three additional single-level wells (MW-43S, MW-44S, and MW-45S) were installed at bottom depths ranging from 14 feet (MW-43S) to 25 feet (MW-45S). Wells installed and well depths are summarized in Table 3-2. Construction details of the nine newly installed wells are provided on well construction forms in Appendix E.

Monitoring wells were constructed of Schedule 40 polyvinyl chloride (PVC) solid-riser casing, and 10-slot Schedule 40 PVC well screen. Monitoring well depths and screen locations were determined based on an evaluation of the field-screening results for groundwater and soil borings. Five-foot-long well screens were used for MW-42I and MW-43S; seven-foot-long wells screens were used for MW-41S and MW42S; and 10-foot-long well screens were used for MW-40S/I, MW-41I, MW-44S, and MW-45S.

For all wells, a filter pack consisting of #1-size factory-washed sand was placed around each well screen to two feet (minimum) above the top of the well screen and one foot (minimum) below the bottom of the well screen. Following placement of the deeper "I-interval" well sand pack, the well was then pre-developed by purging to settle the sand pack around the screen. The depth to sand was measured using a weighted tape or known length of tremie pipe. If settlement of the sand pack was noticed, additional sand was placed in the borehole annulus to bring the sand pack back up to the desired depth. A bentonite seal was installed above the sand pack and allowed to hydrate before installing the sand pack for the upper well casing.

A second sand pack was installed for the upper "S-interval" well screen above the bentonite. A two-foot (minimum) bentonite seal was placed above the "S-interval" sand pack and hydrated. A grout mixture of cement/bentonite was used to completely fill the remaining annular space up to approximately two feet below the ground surface.

A protective steel stick-up casing or flush-mounted steel cover was secured around the PVC well casing using concrete. Wells in the wooded areas (e.g., MW-43S) were completed using locking stick-up casings, whereas wells in the open grass areas were completed using a flush-mounted cover to allow for grass mowing. Steel protective covers for stick-up constructed wells or expandable sanitary seals for flush-mounted wells were locked using currently available MSA well locks (keyed-alike American Lock™ Series 1105). The highest point on the top of the PVC well casing was marked with an indelible marker. The marked location of each well was surveyed by the land surveyor (see Section 3.3.7) and used to measure the depth to groundwater at the well.

Monitoring well development—Following well installation, each monitoring well was developed to remove fines from the well filter-pack and casing and to ensure a hydraulic connection between the well and the geologic formation. Well development was conducted on October 6-7, 2012, more than 24-hours following the construction of the wells on October 4-5, 2012, to allow the grout to set up. Wells were developed by hand bailing to remove heavy sediments, then by gentle surging and purging with a submersible pump or air lifting to remove fines and sediment from the sand pack and well screen.

Development began at the bottom of the well screen, working up incrementally to the top of the screened interval, and then back down to the bottom of the well. During well development, water-level drawdown measurements and physical parameters (including pH, temperature, specific conductance, dissolved oxygen [DO], and oxidation-reduction potential [ORP]) were collected during well development until pumping was complete and recorded in the appropriate site-specific logbook and on a well development record. Water quality parameters were measured using a portable water quality meter. Well development records are in Appendix E.

Development was considered complete when the monitored water-quality parameters stabilized or when a minimum of three saturated well-casing volumes had been removed (if wells were pumped dry). Stabilization of water quality parameters was considered achieved when three consecutive readings were within ±0.1 standard unit for pH, ±3% for specific conductance and

temperature, ±10% for DO and ORP, and less than 50 nephalometric turbidity units for turbidity. Only approximately two saturated well-casing volumes could be removed from well MW-43S due to the low water level and slow recharge. All development water was collected in United States Department of Transportation (USDOT)-approved, 55-gallon steel drums, properly labeled, and stored at a facility-approved location.

3.3.3 Stilling Well Installation

Tetra Tech installed two pond stilling wells (STW-1 and STW-2) to evaluate the hydraulic interconnectivity of Ponds 1 and 2 and shallow groundwater. Figure 3-3 shows the locations of STW-1, and STW-2 and shallow wells MW-43S and MW-44S used for the study. The pond stilling wells are constructed of 1.5-inch-diameter Schedule 40 PVC pipe secured to steel rods driven into the pond sediment to prevent movement of the stilling-well casings. The bottom of each stilling well was set at the sediment-water interface, and the stilling well PVC casing was open to the pond water along its submerged portion via drilled perforations. The top of the riser was fitted with a cover to prevent direct entry of precipitation and debris. A small diameter hole (¼-inch-diameter) was drilled into the side of each casing near the top of the stilling well to allow air in the casing annulus to equilibrate with atmospheric pressure.

3.3.4 Water Level Measurements

Monitoring wells—Groundwater levels were measured at existing DRA groundwater monitoring wells on October 4, 2012. Before sampling, groundwater levels were measured from seven newly installed groundwater monitoring wells: MW-40S/I, MW-41S/I, MW-42S/I, and MW-45S. Groundwater levels at two additional newly installed wells (MW-43S and MW-44S) were also measured before conducting the (ongoing) long-term water level monitoring program in November 2012. These water-level data provide information on groundwater flow characteristics and were used to create groundwater contour maps for the upper, intermediate, and deep surficial aquifer zones. Static water levels were measured by lowering the meter's probe into the well until the liquid level indicator emitted an audible tone, indicating the air/water interface. Each water level was read from the probe cable and recorded to the nearest 0.01 foot as the depth to water from the marked location on top of the PVC well casing, or from the highest point of the top of the PVC well casing. Water level measurements were recorded on

a groundwater level measurement field form. The groundwater level measurement form is in Appendix G.

Pond water and groundwater level monitoring—Water level data were collected from MW-43S, MW-44S, and from Ponds 1 and 2 stilling wells (STWL-1 and STWL-2) to evaluate the hydraulic interconnectivity of the pond water and shallow groundwater. Pressure transducers and water-level data loggers were placed in each of these wells to record instantaneous pressure measurements. Water levels were measured to an accuracy of 0.01-foot using an electronic water level meter immediately before the data loggers were installed, before beginning logging/recording after the data loggers were installed, and before removing the data loggers at the end of the monitoring period. After the data were downloaded, the water level data were compiled using spreadsheet software, and the water elevations were plotted against time. The groundwater level data and computed elevations are in Appendix G.

Daily and hourly precipitation data were obtained for the nearest weather station having reliable records for the monitoring period. Records for MSA (station KMTN) were reviewed but are not considered reliable for rainfall from October 28–30, 2012, when the northeastern seaboard experienced heavy precipitation from hurricane Sandy. Precipitation data for MSA during this period was only partially recorded; recording ceased during the major part of the storm on October 29.

The "event" section of the MSA records indicates rain and heavy rain, but no numerical data were recorded at this station. Therefore, precipitation data from the next nearest station (the Maryland Science Center in Baltimore, Maryland) were used. Rainfall related to hurricane Sandy was observed at the Maryland Science Center over three days, from late on October 28 to October 30, 2012. The total three-day rainfall was recorded at 7.18 inches; 6.03 inches was recorded for October 29, 2012.

Measurable rainfall was also recorded at the Maryland Science Center on November 8, 2012 (0.01 inch) and November 13, 2012 (0.39 inch). In Section 4, the daily rainfall amounts for these dates are plotted on time series graphs, along with the observed pond water and groundwater elevations. Precipitation data are in Appendix G.

3.3.5 Monitoring Well and Pond Stilling Well Sampling

Groundwater samples were collected from wells MW-40S/I, MW41S/I, MW42S/I, and MW-45S on October 17–19, 2012. Groundwater samples were collected from wells MW-43S and MW44S, and pond water samples from stilling wells STWL-1 and STWL-2 on November 6, 2012, in conjunction with the long-term water level monitoring study underway at these locations. All groundwater monitoring wells were sampled using the low-flow, minimal drawdown method (USEPA, 1996a). The low-flow groundwater sampling method consists of removing groundwater from the well at a low-flow rate (typically less than 300 milliliters per minute) while monitoring and recording the groundwater level and water quality parameters (such as pH, temperature, conductivity, ORP, DO, and turbidity).

A peristaltic pump and Teflon™ tubing were used to purge and sample the monitoring wells. Groundwater purging continued until at least four water quality parameters stabilized, indicating that fresh groundwater from the formation was being pumped, or for a maximum of two hours, whichever occurred first. Stabilization of the field parameters was considered complete when three consecutive readings were within ±0.1 standard unit for pH, ±3% for conductivity, ±10 millivolts (mV) for ORP, and ±10% for turbidity. Well MW-43S was purged dry and was sampled after the water level had recovered sufficiently for sampling.

The pond stilling wells were also sampled using a peristaltic pump and Teflon™ tubing. Only minimal purging was conducted before collecting the pond-stilling-well samples, because pond water was assumed to be quickly entering the small-diameter, perforated, stilling-well casings (i.e., a direct connection was assumed to exist between the stilling-well casing and the pond water). Sample information was recorded on the sample log sheets in Appendix F.

Groundwater samples from wells MW-40S/I, MW41S/I, MW42S/I, and MW-45S were analyzed for the following parameters (see Table 3-2):

- VOCs by SW846 Method 8260B
- semivolatile organic compounds (SVOCs) and 1,4-dioxane by SW846 Method 8270C or D
- TPH-GRO and TPH-DRO by SW846 Method 8015B or C
- total and dissolved priority pollutant metals by SW846 Method 6020A/7470A

- hexavalent chromium by SW846 Method 218.6

Groundwater samples from MW-43S, MW-44S, STWL-1, and STWL-2 were analyzed for the following parameters (see Table 3-3):

- VOCs by SW846 Method 8260B
- SVOCs and 1,4-dioxane by SW846 Method 8270D
- dissolved priority pollutant metals by SW846 Method 6020A/7470A
- hardness by Standard Method 2340C (MW-43S only)

Groundwater samples for VOCs and TPH-GRO were collected first, followed by samples analyzed for SVOCs/1,4-dioxane, TPH-DRO, and metals. Groundwater samples analyzed for dissolved metals were filtered in the field before sample preservation using a dedicated, disposable, 0.45-micron filter and a peristaltic pump. Trip blanks were analyzed at a rate of one per cooler containing VOC samples; no other QA/QC samples were collected because sufficient data quality has been indicated by previous DRA sampling and analyses.

3.3.6 Pond Surface Water Sampling

Surface water samples were collected from Pond 1 on October 10, 2012. Water samples from Pond 2 could not be collected on that date because of low water conditions (only 3–4 inches of water in Pond 2). Therefore, the water samples from Pond 2 were collected on November 6, 2012, after the pond had filled sufficiently in response to rainfall on October 28–30, 2012. Surface water samples were collected to assess the current water quality in Pond 1 and Pond 2; pond surface water samples were last collected in 2004.

Pond water sampling locations are shown in Figure 3-4. The rationale for the sampling locations and sample analytical parameters are in Table 3-4. As shown in Figure 3-4, eight pond water samples were collected: six were collected from Pond 1 (EP1-SW7-1, EP1-SW9-1, EP1-SW10-1, EP1-SW11-1, EP1-SW12-1, and EP1-SW13-1) and two were collected from Pond 2 (EP2-SW3-1 and EP2-SW5-1).

Surface water samples EP1-SW9-1 and EP1-SW10-1 in Pond 1 were collected at the same locations as two prior bottom-sediment samples (EP1-SD5, collected in 2000, and EP1-SD2, collected in 2005) to evaluate the quality of surface water above sediment that had some of the

highest historical contaminant concentrations at the DRA. Both of the historical sediment samples contained high concentrations of chlorinated VOCs (cVOCs) (i.e., trichloroethene [TCE], 1,2-dichloroethene [1,2-DCE], and vinyl chloride [VC]), and petroleum VOCs (pVOCs) such as benzene, toluene, ethylbenzene, and xylenes (BTEX). Chemical data obtained from the surface water samples can be used to assess contaminant concentrations potentially dissolving/migrating into the pond water column, and will provide data to evaluate potential risks to human health and ecological receptors. At Pond 2, surface water samples were collected to provide sampling coverage in the western and central portions of the pond.

Pond water samples were collected as grab samples, using direct-fill sampling techniques. All samples were collected from approximately one foot below the water surface by submerging a pre-cleaned, unpreserved bottle and allowing it to fill. The collected sample volume was decanted into the appropriate sample containers, taking care to minimize agitation of the collected water. Water quality parameters (including temperature, pH, specific conductance, hardness, salinity, turbidity, DO, and ORP) were measured at all surface water sampling locations and on both sides of the pond at the time of sampling. The depth of water at the time of sampling was also recorded. All information, including hardness information from the test-kit analysis and global positioning system (GPS) coordinates, were documented on a surface water sample form (Appendix F).

Pond water samples were analyzed for the following parameters:

- VOCs, Freon 22 (chlorodifluoromethane), Freon 113, and tentatively identified VOCs by SW846 Method 8260B
- SVOCs by SW846 Method 8270D; 1,4-dioxane by SW846 Method 8270D[SIM];
- polychlorinated biphenyls (PCBs) by USEPA Method 8082;
- perchlorate by USEPA Method 314;
- TPH-GRO and TPH-DRO by SW846 Method 8015C
- priority pollutant metals (total and dissolved) by SW846 Method 6010C/6020A/7470A
- hexavalent chromium by USEPA Method 218.6; and
- hardness by Standard Method 2340C.

Trip blanks were provided by the laboratory and analyzed daily per cooler of VOC samples collected; no other quality control samples were collected because data obtained from previous DRA investigations are satisfactory. All surface water sampling locations were surveyed using a handheld GPS receiver and the Maryland State Plane North American Datum 1983 (in feet).

3.3.7 Pond Sediment Sampling

Pond sediment samples were collected to assess Pond 1 and Pond 2 contaminant concentrations in sediment to further characterize the horizontal and vertical extent of COPC detected in the sediment in Ponds 1 and 2 and evaluate potential trends in COPC concentrations. Pond sediment samples were last collected in 2005.

In each pond, sediment samples were collected using a stainless steel corer to a depth of two feet below the sediment surface. Sediment sample locations are shown on Figure 3-4; the rationale for the sampling locations is shown in Table 3-5. Eight sediment cores were collected in Pond 1 and four cores were collected in Pond 2. Samples for laboratory analyses were collected at two depths at each core location: a shallow sediment sample was collected from the sediment surface to one foot below the sediment surface, and a deeper sediment sample was collected from one to two feet below the sediment surface. Sediment samples were limited to a depth of two feet, to avoid puncturing a possible low-permeability confining layer at the base of the ponds.

At Pond 1, two of eight sampling locations were at or near locations of previous sediment samples (SD-2 collected in 2000, and SD-5 collected in 2005). Sediment for VOC analyses was transferred directly from the sampling device into the sample container. The remaining portion of the sample was placed in a stainless steel bowl and homogenized before placing the sediment in sample containers. Excess water in the sample was decanted from the sample container before sealing, and care was taken to retain the fine sediment fraction during this procedure.

Pond sediment samples were analyzed for the following parameters:

- VOCs by SW846 Method 8260B
- PCBs by USEPA Method 8082;
- TPH-GRO and TPH-DRO by SW846 Method 8015C
- priority pollutant metals (total and dissolved) by SW846 Method 6010C/7471B

Trip blanks were provided by the laboratory, and were analyzed daily per cooler of VOC samples collected; no other QA/QC samples were collected because satisfactory data quality was obtained during previous DRA sampling and analyses programs.

3.3.8 Surveying

A qualified Maryland-licensed land surveyor provided horizontal and vertical coordinates for each new well and the two stilling wells. Surveyed locations are accurate to the nearest 0.01 foot for vertical elevations (at the top of the well casings) in the North American Vertical Datum 1988, and to the nearest 0.1 foot for horizontal coordinates in the North American Datum 1983. Horizontal coordinates for the CPT sampling locations were determined using GPS. This information was used to update the MSA environmental geographic information system (EGIS). Survey reports are in Appendix H.

3.3.9 General Sampling Procedures, Nomenclature, and Handling

A master site-logbook was maintained at the site as an overall record of field activities. Each sample received a unique sample-identification consisting of the site location, the CPT or well number, a sampling depth for soil or CPT water samples, and a six-digit sampling date for groundwater samples as follows:

- Water samples collected at CPT locations bear the sample identification tag carrying the designation CPT (for cone penetration test), followed by the CPT boring number, followed by the depth of the water sample. For example, CPT-01-20 designates a CPT water sample collected at CPT location 01, from 20 feet below grade.

- Soil samples collected from monitoring well borings are identified by the designation DR-MW (for Dump Road monitoring well), followed by the boring number, followed by the depth range of the soil sample. For example, DR-MW-42-20–22 designates a soil sample collected at boring/well location 42 from 20 to 22 feet below grade.

- Surface water samples collected from Pond 1 bear a sample identification tag with the designation EP1-SW, for *existing Pond* 1-surface water, followed by the sample number, followed by the depth of the sampling point below the water surface. For example, EP1-SW3-1 designates a surface water sample collected from location 3 in existing Pond 1 at a depth of one foot below the water surface. Surface water samples collected from Pond 2 were similarly identified, except the sample designation begins with EP2 for existing Pond 2.

- Sediment samples collected from Pond 1 carry a sample identification tag with the designation EP1-SD for existing Pond 1-sediment, followed by the sample number,

followed by the depth of the sample below the sediment surface. For example, EP1-SD3-0–1 designates that a sediment sample collected from existing Pond 1, at location 3, from the top of the sediment surface to a depth of one foot below surface. Sediment samples collected from Pond 2 were similarly identified, except the sample designation begins with EP2 for existing Pond 2.

- Groundwater monitoring well samples were designated by "MW" followed by the location number and a six-digit number indicating the date of sample collection. For example, a groundwater sample collected on November 6, 2012 from the DRA monitoring well MW-43S would be labeled MW43S-110612.

- Trip blanks (TB) were labeled with a TB prefix, followed by a six-digit submittal date (e.g., TB-110612).

Sample handling includes field-related considerations concerning the selection of sample containers, preservatives, allowable holding times, and analyses requested. Proper custody procedures were followed throughout all phases of sample collection and handling. Chain of custody protocols were used throughout sample handling to establish the evidentiary integrity of sample containers. These protocols were used to demonstrate that the samples were handled and transferred in a manner that would eliminate (or detect) possible tampering. Water samples to be analyzed for hexavalent chromium were expedited to the laboratory so they could be analyzed within 24 hours of collection, as required by the analytical method.

Sample containers were released under signature from the laboratory and were accepted under signature by the samplers or other individual responsible for maintaining custody until the sample containers were transferred to the sampling team. Each sample container was placed in a cooler with ice immediately after each sample container was filled in the field. Trip blanks were placed in the coolers with the ice at the beginning of each day, and remained in the cooler along with the VOC samples at all times. Coolers returning to the laboratory with samples were sealed with strapping tape and a tamper-resistant custody seal. The custody seal contains the signature of the individual releasing the sample transport container, along with the release date and time.

3.3.10 Equipment Decontamination

A decontamination area and a clean zone were established at the perimeter of the restricted work zone to prepare, assemble, and disassemble sampling equipment. Dedicated and/or disposable equipment was used whenever possible (e.g., dedicated stainless steel spoons and bowls for sediment samples). Reusable equipment (e.g., samplers, CPT/DPT drill rods, water level meters)

was decontaminated before and after each use. Dedicated stainless steel spoons and bowls were cleaned before use according to the following procedures. Decontamination of reusable small equipment consisted of the following steps:

- laboratory grade, phosphate-free, ionic-anionic surfactant (Alconox®, Liquinox®, or equivalent) and potable water wash
- potable water rinse
- analyte-free water rinse
- air drying
- collection of decontamination solutions for disposal

All downhole drilling equipment, including the rear of the CPT/DPT rig, Roto-Sonic drill rig, and other equipment, was cleaned before arriving on-site using heated high-pressure water. The equipment was cleaned in the same way before beginning work; between drilling locations; any time the drill rig left the site; and at the conclusion of the drilling program. All equipment decontamination associated with a given drilling location was conducted at that location. Decontamination rinsate was collected in USDOT-approved 55-gallon drums and properly labeled for waste characterization and disposal.

3.3.11 Waste Management

A waste management plan conforming to Lockheed Martin *EESH Remediation Waste Management Procedure No. EROP-03, Revision 4* (effective April 17, 2009) was included in the work plan (Tetra Tech, 2012a) and followed during this investigation to store, manage, test, and dispose of project IDW. IDW for this project consisted of soil cuttings from drilling, decontamination rinsate, well-development water, groundwater sampling purge water, and used personal protective equipment (PPE). PPE IDW was brushed off, placed in trash bags, and disposed of in an MSA facility trash receptacle designated by facility personnel. Soil cuttings from drilling, decontamination rinsates, well-development water, and groundwater sampling purge water were stored in USDOT-approved, 55-gallon steel drums.

All drums were properly labeled and logged on a drum inventory form in accordance with the waste management plan. Drums were moved to a designated staging area in the MDANG equipment storage area near well MW-34S/I. Wastes were then characterized and disposed of in

accordance with applicable state and federal regulations. IDW was removed from the facility and properly disposed of at a Lockheed Martin-approved disposal facility in accordance with federal, state, and local regulations.

3.4 DATA REVIEW

Data validation involves having a party independent of the analytical laboratory review the laboratory data to ensure that specific criteria were met. These criteria are concerned with specifications that are not sample-dependent; they specify performance requirements that should be fully under a laboratory's control. For organic data analyses, specific validation areas include blanks, performance-evaluation-standard materials, and instrument-performance checks. For metals data analyses, specific validation areas include blanks, calibration standards, calibration-verification standards, laboratory-control standards, and interference-check standards.

Chemical data were supplied by the laboratory as hard-copy reports and electronic databases. After sampling was complete, chemical data were validated to assess their reliability and accuracy, in accordance with established USEPA protocols. This review was based on the USEPA Region 3 guidelines (USEPA, 1993 and 1994) and the specifics of the analytical method employed. Data validation reports with chains of custody (COC) are in Appendix I. Data tables that include all sampling results, including non-detects, are in Appendix J.

Collectively, these data are acceptable for their intended use, except for data that have been qualified as unreliable. For this validation, the following data qualifiers (i.e., flags) were applied to the chemical results presented in this report:

B The analyte was not detected substantially above the level reported in the laboratory or field blank (i.e., the result is considered an artifact of the laboratory analysis and is not considered a site contaminant).

U Not detected. The analyte is considered not detected at the reported value.

J The analyte is considered present in the sample. However, the value is estimated and may not be accurate or precise.

L The analyte is considered present in the sample. However, the value is biased low and the actual value is expected to be higher than the reported value.

NJ The analyte has been tentatively identified. This qualifier indicates presumptive evidence of a compound. Special methods may be required to confirm its presence or absence in future sampling efforts.

UJ The analyte was not detected. However, the quantitation or detection limit may be inaccurate or imprecise.

UL The analyte was not detected. However, the quantitation or detection limit is likely greater than the reported value.

UR The result is considered qualitatively or quantitatively unreliable. Only the non-detected results for 2-butanone, tertiary butyl alcohol, and vinyl acetate were flagged with "UR" data qualifiers.

The "*J*" and "*L*" qualifiers appear in the chemical results tables and the figures in Section 4. All flags appear in Appendices H and I.

Common laboratory or field contaminants occasionally may be detected in the samples. The analysis of quality control blanks and other internal laboratory blanks (e.g., method blanks, etc.) is used to determine the significance of the analytical results versus possible laboratory or field contaminants. Common laboratory contaminants for VOCs include acetone, methylene chloride, and 2-butanone. According to USEPA National Functional Laboratory Guidelines, any compound detected in both the sample and an associated blank must be qualified (i.e., flagged with a "*B*") when the sample concentration is less than five times the concentration detected in the blank.

For the common laboratory contaminants listed above, results were qualified with a "*B*" flag when the sample concentration was less than 10 times the blank concentration. In addition to the common laboratory blanks listed above, several TPH and common metals were reported as blank contamination. Qualified results are in the chemical tables in Section 4 and in Appendices H and I.

3.5 DATA MANAGEMENT

Laboratory data handling procedures met the requirements set forth in the laboratory subcontract. All analytical and field data are maintained in the project files. The project files contain copies of the COC forms, sampling log forms, sampling location maps, and data quality-assurance documentation.

3.5.1 Data Tracking and Control

A "cradle to grave" sample tracking system was used from the beginning to the end of the sampling event. The field operations leader coordinated sample tracking before field mobilization. Sample jar labels were handwritten in the field or pre-printed. Labels were reviewed to ensure their accuracy and adherence to work plan requirements. The project manager's (PM) assistant coordinated with the analytical laboratory to ensure that they were aware of the number and type of samples and analyses to expect.

When field sampling was underway, the field operations leader forwarded the chain of custody forms to the PM's assistant and the laboratory for each day that samples were collected. The PM's assistant confirmed that the COC form provided the information required by the work plan. This allowed early detection of errors made in the field so adjustments could be made while the field team was mobilized. The laboratory submitted an electronic deliverable for the sample delivery groups. When all electronic deliverables were received from the laboratory, the PM's assistant confirmed that the laboratory performed all analyses requested.

3.5.2 Sampling Information

Data from field measurements were recorded using the appropriate log sheets as per Tetra Tech standard operating procedures. Reduction of field data entailed summarizing and presenting these data in tabular form. Reduction of laboratory data entailed manipulation of raw data-instrument output into reportable results. Laboratory data were verified by the group supervisor and then by the laboratory's quality control/documentation department.

3.5.3 Project Data Compilation

The analytical laboratory generated an Adobe *Acrobat*® portable document format (PDF) file of the analytical data packages, as well as an electronic database deliverable. The electronic database was checked against the PDF file provided by the laboratory and updated as required, based on data qualifier flags applied during data validation. Data generated during implementation of the sampling and analysis plan were incorporated into the MSA EGIS database. All data (such as units of measure and chemical nomenclature) were checked to maintain consistency with the project database.

3.5.4 Geographical Information System

The data management system for this effort consists of a relational database and EGIS to manage environmental information pertaining to MSA. The relational database stores chemical, geological, hydrogeological, and other environmental data collected for the MSA environmental investigations. The EGIS is built from the relational database and contains subsets of the larger data pool. Using the EGIS, environmental data were posted onto base maps to represent the information graphically for this report.

Table 3-1

Cone Penetrometer Testing Summary—2012
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Cone penetrometer test (CPT) number	Location	Number of direct-push technology (DPT) groundwater samples/maximum depth[(1)] (feet)	*In situ* analyses	Comments
All CPT locations	All areas	Varies[(1)]	Cone bearing or tip resistance (Q*c*), sleeve friction (F*s*), (both of which are used to calculate the friction ratio [Rf]), and pore water pressure (u) were continuously measured, at 5-centimeter (cm) intervals as the cone penetrometer was advanced into the ground, in accordance with ASTM D5778-07.	The cone penetrometer test unit (CPTu) component of the test provides uniform and detailed stratigraphic logs of soils encountered, together with estimated phreatic surface depths. The CPTu plots also provide information that help estimate hydraulic conductivity and permeability to assist with groundwater sample collection depth determinations. Groundwater samples were collected for volatile organic compound (VOC) analysis at five-foot intervals using DPT to further assess groundwater conditions in the Dump Road Area (DRA).
CPT-01 to CPT-05	Taxiway Tango Median Anomaly Area	2–8/33–60	Cone bearing or Q*c*, F*s* (used to calculate Rf and u) were continuously measured, at 5-cm intervals as the cone penetrometer was advanced into the ground, in accordance with ASTM D5778-07.	CPT-01 to CPT-05 are around well DMW-11S to further delineate VOCs in the area of the highest chlorinated VOC (cVOC) concentrations in monitoring well groundwater samples in the Dump Road Area. The cVOCs in this area are in the upper surficial aquifer. CPT-05 is in an area (MIP-58) where high concentrations of trichloroethene (TCE) have been detected in soil samples collected at 10 and 18 feet deep. Benzene, toluene, ethylbenzene, and xylenes (BTEX) were also detected at MIP-58 and DMW-11S.

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Cone Penetrometer Testing Summary—2012
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Cone penetrometer test (CPT) number	Location	Number of direct-push technology (DPT) groundwater samples/maximum depth[(1)] (feet)	*In situ* analyses	Comments
CPT-06	Taxiway Tango Median Anomaly Area	7/45	Cone bearing or Q*c*, F*s* (used to calculate Rf and u) were continuously measured, at 5-cm intervals as the cone penetrometer was advanced into the ground, in accordance with ASTM D5778-07.	CPT-06 is in an unsampled area east of Taxiway Tango between wells DMW-1S/21I/21D and DMW-10S/I. It is hydraulically downgradient (groundwater) of well DMW-11S, which has had high concentrations of cVOCs, and Excavation 2, which has had high BTEX concentrations in shallow subsurface soil (two to15 feet deep).
CPT-07 to CPT-10	Taxiway Tango Median Anomaly Area	8–9/55–60	Cone bearing or Q*c*, F*s* (used to calculate Rf and u) were continuously measured, at 5-cm intervals as the cone penetrometer was advanced into the ground, in accordance with ASTM D5778-07.	CPT-07 through CPT-10 are around wells DMW-1A/1B, temporary well sample PA-7, and groundwater samples from MIP-30. These samples were collected to further delineate VOCs impacts in groundwater in areas where high cVOC concentrations suggest the potential presence of a cVOC source area. The cVOCs in this area are in the upper and intermediate surficial aquifer. High petroleum VOC (pVOC) concentrations were also detected in this area, particularly in subsurface soil at test pit A27 and soil boring DR-SB-12, and in groundwater at PA-7 and TT-5 (high chlorobenzene concentrations were located northwest of CPT-08). CPT-07 through CPT-10 further delineate VOCs to the north, east, south, and west, particularly in the intermediate surficial aquifer where high concentrations of TCE were detected at MIP-30 and DMW-1A.

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Cone Penetrometer Testing Summary—2012
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Cone penetrometer test (CPT) number	Location	Number of direct-push technology (DPT) groundwater samples/CPT depth[(1)] (feet)	*In situ* analyses	Comments
CPT-11 to CPT-15	Drum Area	6–8/50–60	Cone bearing or Q*c*, F*s* (used to calculate Rf and u) were continuously measured, at 5-cm intervals, as the cone penetrometer was advanced into the ground, in accordance with ASTM D5778-07.	CPT-11 through CPT-15, located around well DMW-7S, MW-5, and temporary well samples DA-3 through DA-9, were used to delineate VOCs in this area of high cVOC concentrations in soil and groundwater. High cVOC concentrations are in the upper surficial aquifer, and TCE concentrations detected in these and temporary wells suggest the possible presence of a cVOC source area. These five locations are distributed around DMW-7S, MW-5, and the temporary-well sampling locations (DA-3 through DA-9) to further delineate the extent of the VOCs in the upper surficial aquifer and confirm lower concentrations in the intermediate surficial aquifer.
CPT-16, CPT-17, CPT-19	PHA and Pond 1	7–9/50–55	Cone bearing or Q*c*, F*s* (used to calculate Rf and u) were continuously measured, at 5-cm intervals as the cone penetrometer was advanced into the ground, in accordance with ASTM D5778-07.	These locations are in and around the PHA and north of Pond 1 and may be sources of cVOC and pVOC groundwater contamination. CPT-16 is in an area upgradient of the PHA where a possible TCE source area may exist, as indicated by high TCE concentrations at well DMW-9, PA-1 and TT-3. Additionally, high concentrations of BTEX have been detected at DMW-9S and PA-1. CPT-17 is in the PHA where petroleum product has previously been reported in boring B-15. CPT-19 was collected downgradient of the PHA and well DMW-9S/9I in an area not previously sampled at depth.

Table 3-1

Cone Penetrometer Testing Summary—2012
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Cone penetrometer test (CPT) number	Location	Number of direct-push technology (DPT) groundwater samples/ maximum depth[(1)] (feet)	*In situ* analyses	Comments
CPT-20 and CPT-21	East of Pond 1	6–8/50–55	Cone bearing or Q*c*, F*s* (used to calculate Rf and u) were continuously measured, at 5-cm intervals as the cone penetrometer was advanced into the ground, in accordance with ASTM D5778-07.	CPT-20 and CPT-21 are areas previously unsampled at depth that are hydraulically downgradient (groundwater) of Pond 1 and upgradient of wells MW-18S/I/D and DMW3S/I/D. TCE concentrations in Pond 1 sediment and in the intermediate surficial aquifer at wells MW-18I and DMW-3I indicate a possible TCE source area. CPT-20 and CPT-21 will be used to obtain deeper subsurface lithology east of Pond 1 and to assess whether a TCE source area may be in the upper and intermediate surficial aquifer between Pond 1 and wells MW-18S/I/D and DMW3S/I/D.
CPT-22	South of Pond 1 and east of the Taxiway Tango Median Area	4/40	Cone bearing or Q*c*, F*s* (used to calculate Rf and u) were continuously measured, at 5-cm intervals, as the cone penetrometer was advanced into the ground, in accordance with ASTM D5778-07.	CPT-22 sampled the area southeast of Pond 1 where historical aerial photographs and a historical U.S. Geological Survey (USGS) topographic map appear to show a pit or pond. Interviews conducted as part of the 1989 preliminary assessment (PA) indicate that a third pit was used for waste disposal, but it was not found during PA site visits. TCE in groundwater at well DMW-2A (13,000 micrograms per liter [µg/L]), which is hydraulically downgradient of the former third pond area, indicates the potential for a TCE source area. A groundwater sample collected near the third pond area (MIP-26, with a TCE groundwater concentration of 8,000 µg/L in the intermediate surficial aquifer) also indicates a possible TCE source area near this location.

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Cone Penetrometer Testing Summary—2012
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Cone penetrometer test (CPT) number	Location	Number of direct-push technology (DPT) groundwater samples/CPT depth[(1)] (feet)	*In situ* analyses	Comments
CPT-18	Taxiway Tango Area-North	6/45	Cone bearing or Q*c*, F*s* (used to calculate Rf and u) were continuously measured, at 5-cm intervals as the cone penetrometer was advanced into the ground, in accordance with ASTM D5778-07.	CPT-18 was used to characterize groundwater quality where TCE has been detected at a concentration of 11,000 µg/kg in a soil sample collected at 10 feet from DR-SB-27. pVOCs were also detected in this soil sample, but at a much lower concentration of 75 µg/kg. TCE has been detected in groundwater at wells MW-33S (TCE at 1,500 µg/L in 2009 and 690 µg/L in 2010), MW-15S/I (TCE at 63 and 1,500 µg/L for MW-15S and MW-15I in 2011) and MW-28I (TCE at 1,000 µg/L in 2011), all of which are hydraulically downgradient of the Taxiway Tango Area-North possible VOC source area.

[(1)]The actual number of samples depended upon the depth to groundwater at each location and probe refusal depth; therefore, the number of samples collected per boring varies.

Table 3-2

Groundwater Monitoring Well and Soil Sampling Summary—2012
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Well number	Location	Well bottom depth	Sample analysis (method)	Comments
MW-40S/I	Eastern and downgradient boundary of the Drum Area	MW-40S—25 feet MW-40I—40 feet	SOIL: Samples collected at depths of 4-6 feet; 9-11 feet; 22-24 feet; 30-32 feet volatile organic compounds [VOCs] (8260B) priority pollutant metals—total (6010C; 7471B) total petroleum hydrocarbons [TPH]-gasoline-range organics [GRO] and diesel-range organics [DRO] (8015B) total organic carbon (TOC) (Lloyd Kahn) pH (9045C) GROUNDWATER: VOCs (8260B) semivolatile organic compounds [SVOCs] (8270D) 1,4-dioxane (8270D[SIM]) priority pollutant metals—total and dissolved (6020A; 7470A) TPH-GRO/ DRO (8015B) hexavalent chromium (218.6) ferrous iron (Hach test kit or equivalent) dissolved organic carbon (DOC) (SM 5310B) chemical oxygen demand (COD) (SM5220) biological oxygen demand (BOD) (SM5210) sulfate (USEPA Method 300) nitrate (USEPA Method 300) total alkalinity (SM 2320B) total phosphate (USEPA Method 9056) methane/ethane/ethene (AM20Gax) sulfide analysis by ion chromatography	To provide soil and groundwater-chemical monitoring data and to provide monitoring points to assess groundwater conditions (trichloroethene [TCE]) in the Drum Area (wells MW-19I/D were previously installed, but no shallow well was installed here). The wells were installed in the area of previous probe sample DA-7, which had a TCE concentration of 130,000 µg/L.

Table 3-2

Groundwater Monitoring Well and Soil Sampling Summary—2012
Dump Road Area Source Areas Investigation
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Well number	Location	Well bottom depth	Sample analysis (method)	Comments
MW-41S/I and MW-45S	Cross-gradient to well DMW-1A	MW41S—35 feet MW41I—54 feet MW45S—25 feet	SOIL: At MW-41S/I, samples collected at depths of 6-7.5 feet; 7.5-10 feet; 20-22 feet; 24-26 feet; 44-46 feet VOCs (8260B) priority pollutant metals—total (6010C; 7471B) TPH-GRO/DRO (8015C) TOC (Lloyd Kahn) pH (9054C) DR-MW-41-6-7.5 also analyzed for Toxicity Characteristic Leaching Procedure (Method 1311) organics and inorganics (8260B [VOCs]; 8270C [SVOCs]; 8081A [pesticides]; 8151A [herbicides]; 6010B/6010C [metals]; 7470A [mercury]). GROUNDWATER: VOCs (8260B) SVOCs (8270C) 1,4-Dioxane (8270C) priority pollutant metals—total and dissolved (6020A; 7470A) TPH-GRO/DRO (8015C) hexavalent chromium (218.6)	To provide soil and groundwater chemical data at a potential VOC source area near well DMW-1A in the Taxiway Tango East area. Wells were installed at three depths in the area of previous shallow probe groundwater sample PA-7, which had a TCE groundwater concentration of 220,000 µg/L, and new probe sample location CPT-08, which had a TCE concentration of 40,000 µg/L at 30 feet.

Table 3-2

Groundwater Monitoring Well and Soil Sampling Summary—2012
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Well number	Location	Well bottom depth	Sample analysis (method)	Comments
MW-42S/I	East of the Petroleum Hydrocarbon Area between Ponds 1 and 2 (MW42S/I)	MW42S—12 feet MW42I—33 feet	SOIL: Samples collected at depths of 0-2 feet; 9-10 feet; 20-22 feet; 34-35 feet VOCs (8260B) priority pollutant metals—total (6010C; 7471B) TPH-GRO/DRO (8015B) TOC (Lloyd Kahn) pH (9045) GROUNDWATER: VOCs (8260B) SVOCs (8270D) 1,4-Dioxane (8270D) priority pollutant metals—total and dissolved (6020A; 7470A) TPH-GRO/DRO (8015C) hexavalent chromium (218.6)	To provide soil and groundwater-chemical monitoring data upgradient of possible source areas (Petroleum Hydrocarbon Area, Pond 1), to fill in a data gap between well DMW-9 and Taxiway Tango, and assess VOCs in groundwater at probe location CPT-16 where elevated levels of chlorinated VOCs (TCE at 2,900 µg/L) and total toluene, ethylbenzene, and xylenes at 62,300 µg/L were detected in 2012.

Table 3-3

Wells MW-43S and MW-44S, and Stilling Well Summary—2012
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Well or stilling Well number	Location	Sample analysis (method)	Comments
MW-43S and MW-44S	Wells hydraulically downgradient of Pond 1 and Pond 2 Installed to depths of 14–15 feet below ground surface.	volatile organic compounds [VOCs] (8260B) semivolatile organic compounds [SVOCs] (8270D) 1,4-dioxane (8270D[SIM]) priority pollutant metals—dissolved (6020A; 7470A) MW-43S – hardness (Standard Method 2340C)	Wells were installed downgradient of Ponds 1 and 2 to determine groundwater fluctuations downgradient of the ponds and upgradient of Frog Mortar Creek, and to compare pond water levels to shallow groundwater water levels. A groundwater sample from each well was collected at the beginning of the water level monitoring program to provide groundwater-chemical monitoring data to evaluate the connection between pond water and groundwater. The samples also provide groundwater chemical data adjacent to a possible major VOC source area (Pond 1) in an area not previously sampled, and at a second location directly downgradient of Pond 2 in an area between wells MW-18S and MW-14I.
EP1-STW-1 and EP2-STW-2	Stilling wells in Pond 1 and Pond 2.	volatile organic compounds [VOCs] (8260B) semivolatile organic compounds [SVOCs] (8270D) 1,4-dioxane (8270D[SIM]) priority pollutant metals—dissolved (6020A; 7470A)	To provide pond water chemical sampling locations to evaluate the connection between pond water and groundwater.

Table 3-4

Pond Surface Water Sampling Summary—2012
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Sample number	Sampling depth	Sample analysis (method)	Comments
Pond 1			
EP1-SW7[(1)] EP1-SW9[(1)] EP1-SW10 EP1-SW11 EP1-SW12 EP1-SW13	One sample at each location from one foot below the water surface	volatile organic compounds [VOCs], Freon 22 [chlorodifluoromethane], Freon 113, and tentatively identified VOCs (8260B) semi-volatile organic compounds [SVOCs] by SW846 Method (8270D) 1,4-dioxane (8270D[SIM]) polychlorinated biphenyls [PCBs] (8082) priority pollutant metals [filtered in the laboratory and unfiltered] (6020A/7470A) hexavalent chromium (218.6) total petroleum hydrocarbons [TPH]-gasoline-range organics [GRO] and diesel-range organics [DRO] (8015C) perchlorate (314) hardness (Standard Method 2340C) ***Field measurements:*** temperature, pH, specific conductance, salinity, turbidity, dissolved oxygen (DO), oxidation-reduction potential (ORP)	Surface water samples were collected to update and characterize pond water contaminant concentrations. Surface water from Pond 1 was last sampled in 2004. EP1-SW9 and EP1-SW10 were collected at the locations of previous bottom sediment samples EP1-SD5 and EP1-SD2. Sediment samples EP1-SD2 and EP1-SD5 contained high concentrations of trichloroethene, 1,2-dichloroethene, and vinyl chloride, as well as petroleum VOCs (pVOCs). Surface water samples EP1-SW9 and EP1-SW10 were collected to evaluate water quality above sediment that had some of the highest historical chlorinated VOC and pVOC concentrations at the Dump Road Area (DRA). The sample analyses provide updated and additional chemical data to assess contaminant concentrations potentially dissolving/migrating into the pond water column from highly contaminated sediments, and data to evaluate potential risks to human health and ecological receptors.

Table 3-4

Pond Surface Water Sampling Summary—2012
Dump Road Area Source Areas Investigation, Martin State Airport, Middle River, Maryland
Page 2 of 2

Sample number	Sampling depth	Sample analysis (method)	Comments
Pond 2			
EP2-SW3 EP2-SW5	One sample at each location from one foot below the water surface	VOCs, Freon 22, Freon 113, tentatively identified VOCs (8260B) SVOCs (8270D) 1,4-dioxane (8270D[SIM] PCBs (8082) priority pollutant metals [filtered in laboratory and unfiltered] (6020A/7470A) hexavalent chromium (218.6) TPH-GRO and TPH-DRO (8015C) perchlorate (314) hardness (Standard Method 2340C) ***Field measurements:*** temperature, pH, specific conductance, salinity, turbidity, DO, ORP	Surface water samples were collected at EP2-SW3 and EP2-SW5 to provide sampling coverage in the center (EP2-SW5) and western (EP2-SW3) portions of the pond. Updated and additional surface water data were required to determine whether Pond 2 water is contaminated and a source of VOCs for groundwater. The last time a surface water sample was collected in Pond 2 was in 2004. The sample analyses provide updated and additional chemical data to assess contaminant concentrations potentially dissolving/migrating into the pond water column from sediments, and data to evaluate potential risks to potential human health and ecological receptors.

Table 3-5

Sediment Sampling Summary—2012
Dump Road Area Source Areas Investigation
Martin State Airport, Middle River, Maryland

Sediment sample number	Location	Sampling depth	Sample analysis (method)	Comments
EP1-SD7 EP1-SD8 EP1-SD9[(1)] EP1-SD10[(1)] EP1-SD11 EP1-SD12 EP1-SD13 EP1-SD14	Pond 1	Two samples at each location from 0–1 feet and 1–2 feet	volatile organic compounds [VOCs] (8260B) total petroleum hydrocarbons [TPH]-gasoline-range organics [GRO] and diesel-range organics [DRO] (8015C) polychlorinated biphenyls [PCBs] (8082) total priority pollutant metals (6010C; 7471B)	Sediment samples were collected to: assess sediment contaminant concentrations (both horizontally and vertically) in support of updating the conceptual site model; determine the source and extent of contaminants of potential concern (COPC) detected in the sediment in Ponds 1 and 2, as appropriate; and evaluate trends of COPC.
EP2-SD3 EP2-SD4 EP2-SD5 EP2-SD6	Pond 2	Two samples at each location from 0–1 feet and 1–2 feet	VOCs (8260B) TPH-GRO and DRO (8015C) PCBs (8082) total priority pollutant metals (6010C; 7471B)	Sediment samples were collected to: assess sediment contaminant concentrations (both horizontally and vertically) in support of updating the conceptual site model; determine the source and extent of contaminants of potential concern (COPC) detected in the sediment in Ponds 1 and 2, as appropriate; and evaluate trends of COPC.

[(1)] Sampling locations EP1-SD9 and EP1-SD10 replicate historical samples collected during previous sampling events. EP1-SD9 replicates EP1-SD-5 (collected in 2005), and EP1-SD10 replicates EP1-SD-2 (collected in 2000). The new samples were collected as close as practical to the historical sampling locations.

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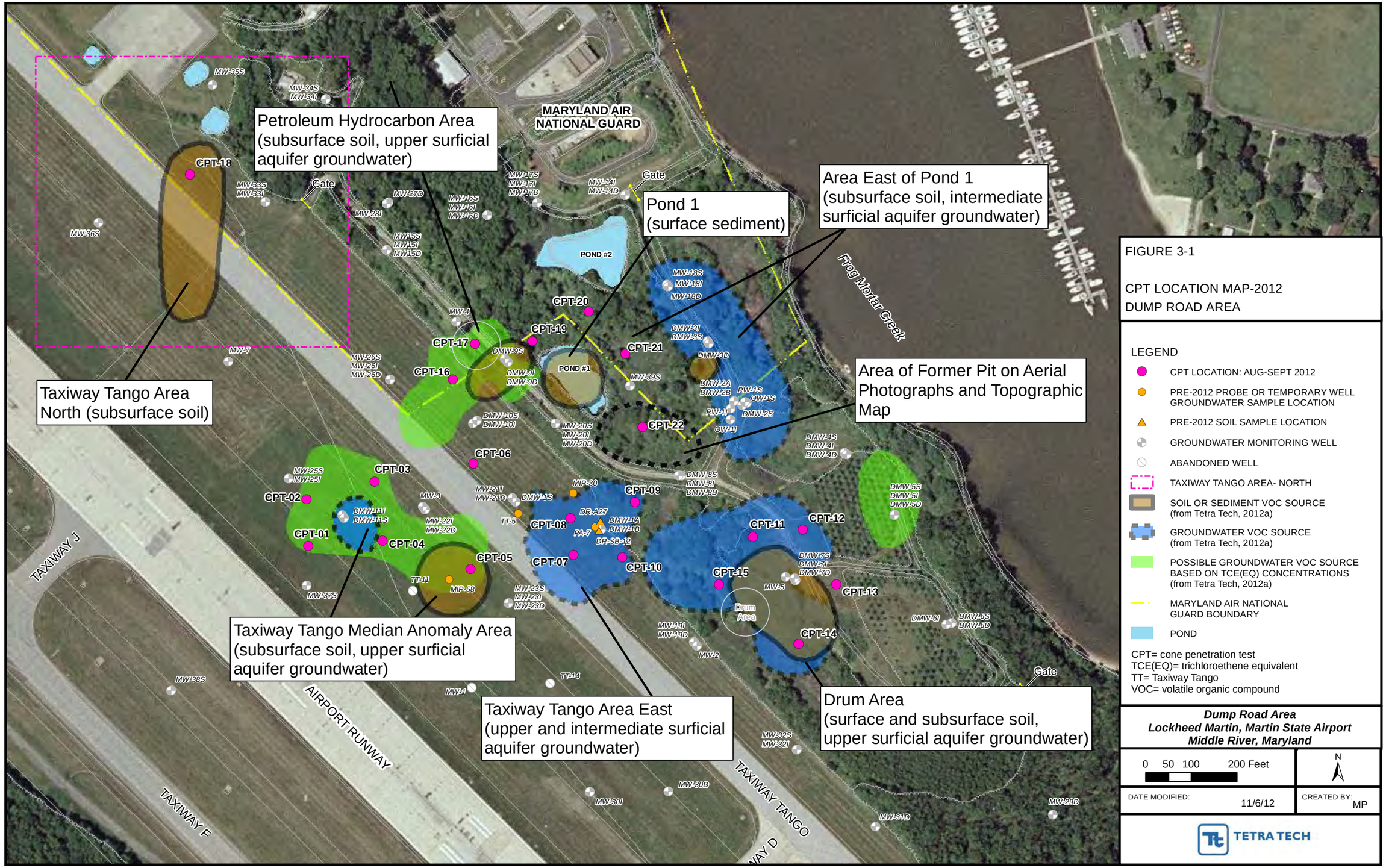

FIGURE 3-1

CPT LOCATION MAP-2012
DUMP ROAD AREA

LEGEND

- CPT LOCATION: AUG-SEPT 2012
- PRE-2012 PROBE OR TEMPORARY WELL GROUNDWATER SAMPLE LOCATION
- PRE-2012 SOIL SAMPLE LOCATION
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- TAXIWAY TANGO AREA- NORTH
- SOIL OR SEDIMENT VOC SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER VOC SOURCE (from Tetra Tech, 2012a)
- POSSIBLE GROUNDWATER VOC SOURCE BASED ON TCE(EQ) CONCENTRATIONS (from Tetra Tech, 2012a)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

CPT= cone penetration test
TCE(EQ)= trichloroethene equivalent
TT= Taxiway Tango
VOC= volatile organic compound

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 11/6/12

CREATED BY: MP

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Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA MW location map_May2012 surveyed locations.mxd)
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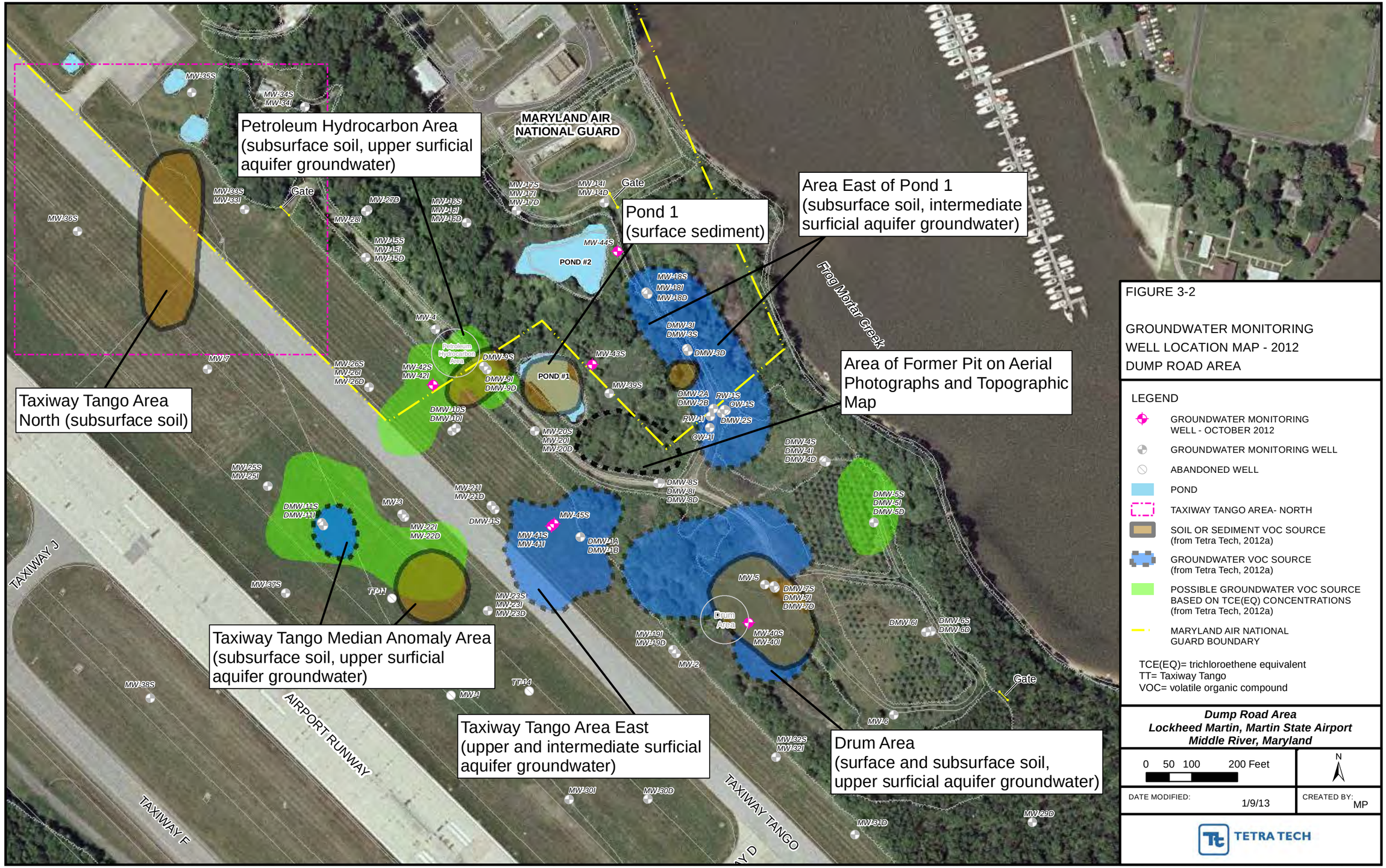

FIGURE 3-2

GROUNDWATER MONITORING WELL LOCATION MAP - 2012
DUMP ROAD AREA

LEGEND

- GROUNDWATER MONITORING WELL - OCTOBER 2012
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- POND
- TAXIWAY TANGO AREA- NORTH
- SOIL OR SEDIMENT VOC SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER VOC SOURCE (from Tetra Tech, 2012a)
- POSSIBLE GROUNDWATER VOC SOURCE BASED ON TCE(EQ) CONCENTRATIONS (from Tetra Tech, 2012a)
- MARYLAND AIR NATIONAL GUARD BOUNDARY

TCE(EQ)= trichloroethene equivalent
TT= Taxiway Tango
VOC= volatile organic compound

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 1/9/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA PZ_STW location map_May2012 surveyed locations.mxd)
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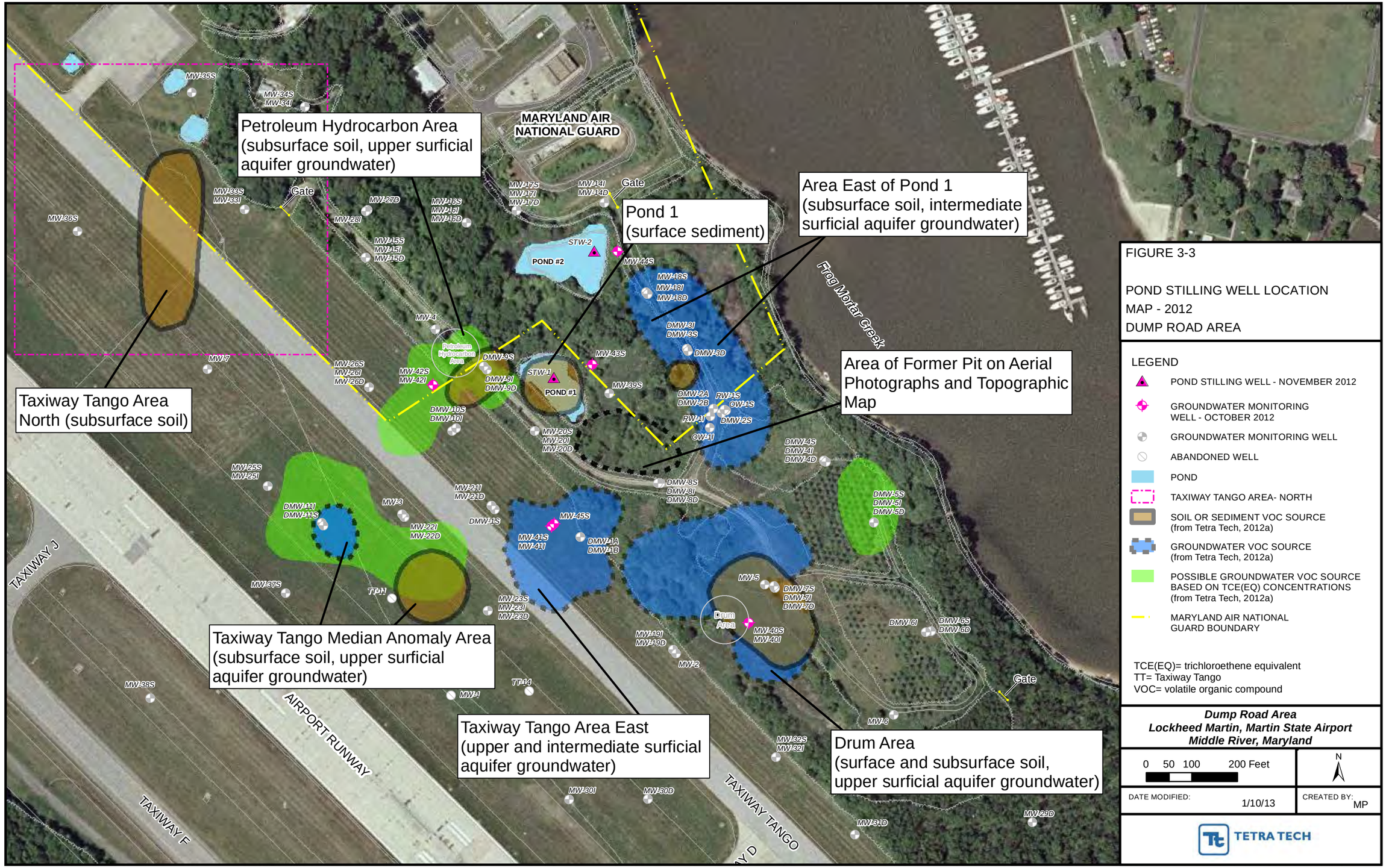

FIGURE 3-3

POND STILLING WELL LOCATION MAP - 2012
DUMP ROAD AREA

LEGEND

- POND STILLING WELL - NOVEMBER 2012
- GROUNDWATER MONITORING WELL - OCTOBER 2012
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- POND
- TAXIWAY TANGO AREA- NORTH
- SOIL OR SEDIMENT VOC SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER VOC SOURCE (from Tetra Tech, 2012a)
- POSSIBLE GROUNDWATER VOC SOURCE BASED ON TCE(EQ) CONCENTRATIONS (from Tetra Tech, 2012a)
- MARYLAND AIR NATIONAL GUARD BOUNDARY

TCE(EQ)= trichloroethene equivalent
TT= Taxiway Tango
VOC= volatile organic compound

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 1/10/13

CREATED BY: MP

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Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Sediment Sample location map_May2012 revised 011013.mxd)

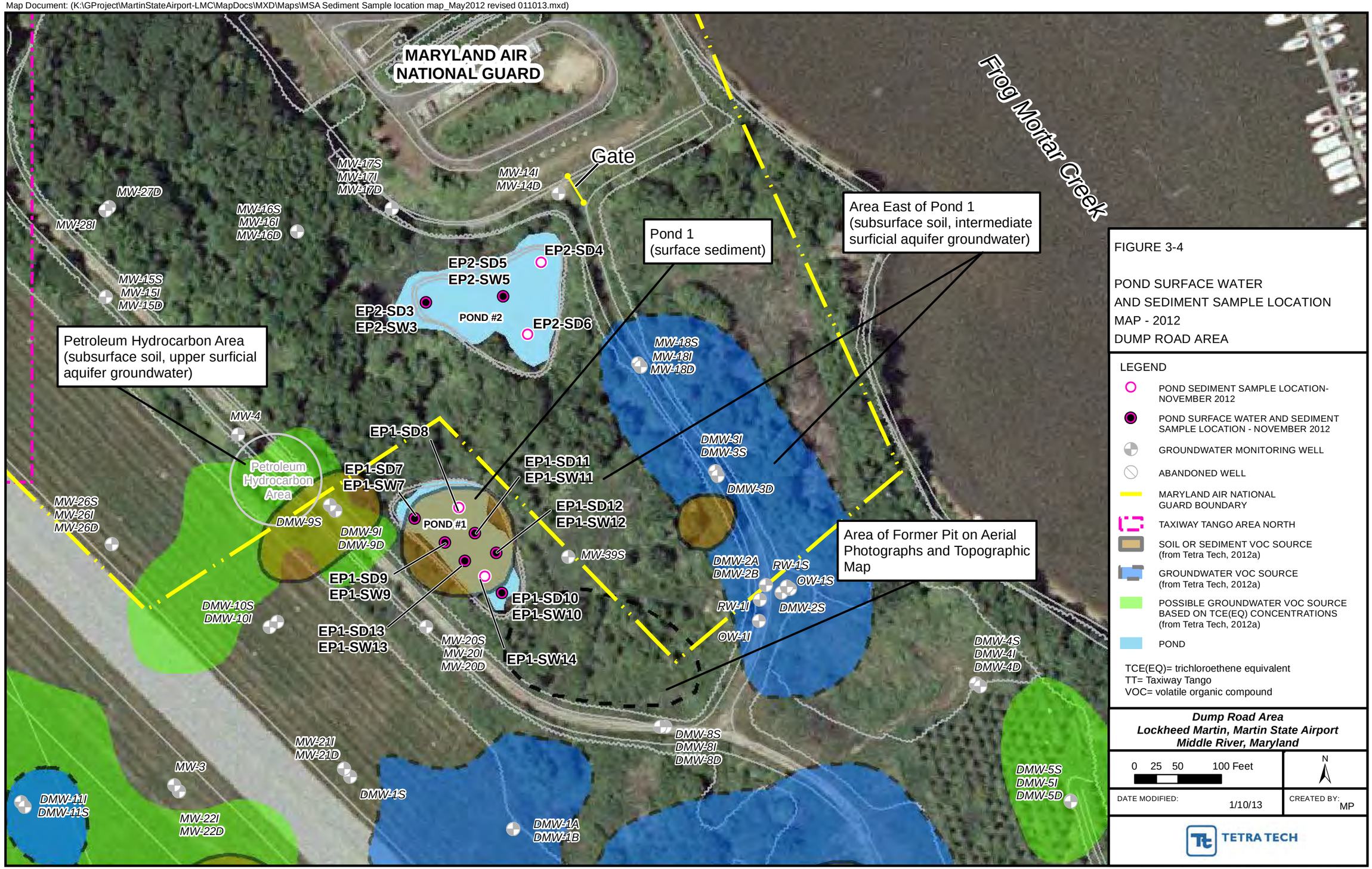

FIGURE 3-4

POND SURFACE WATER
AND SEDIMENT SAMPLE LOCATION
MAP - 2012
DUMP ROAD AREA

LEGEND

- POND SEDIMENT SAMPLE LOCATION-NOVEMBER 2012
- POND SURFACE WATER AND SEDIMENT SAMPLE LOCATION - NOVEMBER 2012
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- TAXIWAY TANGO AREA NORTH
- SOIL OR SEDIMENT VOC SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER VOC SOURCE (from Tetra Tech, 2012a)
- POSSIBLE GROUNDWATER VOC SOURCE BASED ON TCE(EQ) CONCENTRATIONS (from Tetra Tech, 2012a)
- POND

TCE(EQ)= trichloroethene equivalent
TT= Taxiway Tango
VOC= volatile organic compound

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 25 50 100 Feet

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DATE MODIFIED: 1/10/13

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Section 4
2012 Investigation Results

The following section presents the results of the source area investigation tasks conducted from September–November 2012. This study includes site-wide groundwater level data, cone penetrometer testing (CPT), probe groundwater sampling by direct-push technology (DPT), long-term groundwater and pond-water level monitoring, and sampling and chemical analyses of soil, groundwater, pond water, and pond sediment. The results of these investigation tasks are described in the following sections.

Chemical-specific screening criteria are used to evaluate concentrations of constituents detected in soil, groundwater, surface water, and sediments. Screening objectives are to: (1) gauge the degree of observed contamination in relation to regulatory standards/criteria and its potential adverse effects on human health or the environment; and (2) to evaluate the need for further sampling or remedial action. Therefore, regulatory risk-based criteria are used whenever possible.

Soil and groundwater results are screened against the Maryland Department of the Environment (MDE) *Cleanup Standards for Soil and Groundwater* (MDE, 2008). Soil results are screened against non-residential soil standards, because the site access is restricted and is likely to remain a commercial facility for the indefinite future. Surface water results are screened against the United States Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) freshwater screening benchmarks (USEPA, 2006).

Chemical results in sediment are compared to both human health and ecological screening criteria. For human health screening, the results are compared against 10 times the USEPA regional screening level (RSL) for soil. RSLs not adjusted for sediment exposure are based on hazard indices (HIs) of 1 for non-carcinogenic chemicals, or a lifetime cancer risk for carcinogenic chemicals of 1×10^{-6} (i.e., a one in a million probability). RSLs are normally adjusted by a factor of 10 for sediment screening because human exposures to bottom sediment

are anticipated to be less than exposures to soil. For carcinogens, these adjusted values correspond to a carcinogenic risk level of 10^{-5} (i.e., a one in 100,000 probability). The 10^{-5} risk level is considered within USEPA's acceptable risk range for human exposure, assuming no other chemical risks are present.

Human health sediment screening criteria are used only as a reference to identify and highlight constituents that could affect human health from hypothetical sediment exposure; they are not considered fully applicable because the Dump Road Area (DRA) is restricted, and Martin State Airport (MSA) is likely to remain a commercial facility for the indefinite future. Sediment results are not screened against non-residential or industrial criteria because the site has no expected human exposure pathways for pond sediment in non-residential or industrial settings. For ecological exposure screening, sediment results are compared to the USEPA Region 3 BTAG sediment screening benchmarks (USEPA, 2006), USEPA ecological toxicity levels (USEPA, 1996b), and the National Oceanic and Atmospheric Administration (NOAA) quick-reference screening tables (NOAA, 2008).

In Sections 4.3 and 4.5–4.7, media-specific (i.e., soil, groundwater, surface water, and sediment) tables summarize the chemical results. Shaded cells in these tables indicate constituent concentrations exceeding screening criteria. These tables provide complete lists of detected concentrations and data validation qualifiers for the 2012 investigation samples. Tables showing all sampling results (detected and not-detected; including detection limits) are in Appendix J.

4.1 GROUNDWATER LEVEL DATA

Table 4-1 presents the October 2012 groundwater level measurements and computed groundwater elevations for DRA wells. Figures 4-1 through 4-3 show the October 2012 groundwater-elevation contour maps for the upper, intermediate, and lower surficial-aquifer zones, respectively. As presented in Table 4-1, static groundwater levels are reported at depths measured from the top of the well casings. Accounting for well-casing stickup associated with aboveground well-casing risers, and well stick-downs for flush-mounted well designs, depths to groundwater ranges from approximately 5–19 feet below grade in each of the upper, intermediate, and lower surficial-aquifer wells. Shallow groundwater is encountered in the western part of the site near the airport runway, whereas deeper groundwater is found in the eastern portion of the site.

As shown in Figures 4-1 through 4-3, groundwater in the upper, intermediate, and lower surficial-aquifer generally flows east–northeast from the runway and taxiway to Frog Mortar Creek. Elevated groundwater at wells MW-43S, MW-39S, DMW-3S, and MW-44S (Figure 4-1) indicates local groundwater mounding east and northeast of Pond 1 and Pond 2. Wells MW-39S, MW-43S, and DMW-3S are installed in clay-rich soil above the more permeable sands in which the surrounding upper surficial aquifer wells are installed. Therefore, groundwater levels in these wells may reflect localized perched groundwater in this portion of the DRA. The groundwater elevations of wells MW-39S, MW-43S, and MW-44S in Figure 4-1 indicate that a portion of the higher groundwater surface may also be due to infiltrating water from Pond 1 and Pond 2.

4.2 CONE PENETROMETER AND PROBE GROUNDWATER SAMPLING

Twenty-two CPT borings (CPT-01 through CPT-22) and 22 DPT-probe groundwater sample borings were advanced in possible volatile organic compound (VOC) source areas indicated by previous sampling results and historical activities (Appendix A of Tetra Tech, 2012a). Results for the CPT boring groundwater samples are in Appendix D. The subsurface lithology of boring soils was classified using nine soil behavior types. The following sections discuss area-specific lithologic characteristics from CPT analyses and DPT-probe groundwater sampling results for the Taxiway Tango Median Anomaly Area (TT Median Area), Taxiway Tango Area East (TT East), the Drum Area (DA), the Petroleum Hydrocarbon Area (PHA), the area east of Pond 1, and Taxiway Tango Area North (TT North). Figure 3-1 in Section 3 shows the locations of these areas. Lithologic data also augmented the DRA hydrostratigraphic model and existing geological cross sections, as needed.

4.2.1 Taxiway Tango Median Anomaly Area

CPT-01 through CPT-05 were advanced in the TT Median Area at locations surrounding well DMW-11S, which historically has had the highest concentrations of chlorinated VOCs (cVOCs) at the site. The remaining CPT (CPT-06) was advanced east of CPT-03 and on the eastern side of Taxiway Tango. DMW-11S is screened from 10–20 feet below grade. Trichloroethene (TCE) concentrations in the intermediate surficial aquifer zone in this area (at wells DMW-11I, MW-22I, MW-25I) are typically less than 2–3 micrograms per liter (µg/L), although TCE at DMW-11I was detected at a historical high of 19 µg/L in 2012. Generally, sampling results for

well DMW-11I (screened from 30 to 40 feet below grade) indicate that high cVOC concentrations are limited to shallow clayey soil in the upper surficial aquifer in this area.

The results of CPT-01 through CPT-04 confirm the vertical VOC distribution results indicated at wells DMW-11S/I, MW-22I, and MW-25I. As shown in Figure 4-4, the highest concentrations of cVOCs in the probe groundwater samples were detected at depths of 15 to 24 feet below grade. The 20-foot sample from CPT-03 has the highest concentrations of cVOCs in this area, with tetrachloroethene (PCE) at 770 µg/L, TCE at 53,000 µg/L, *cis*-1,2-dichloroethene (*cis*-1,2-DCE) at 69,000 µg/L, and vinyl chloride (VC) at 3,200 µg/L. These cVOC concentrations are comparable to historical concentrations detected at well DMW-11S. CPT-03 also has concentrations of benzene (170 µg/L) and toluene (35,000 µg/L) that exceed groundwater standards. The CPT-03 results indicate that the cVOC source in the TT Median Area is northeast of well DMW-11S, near Taxiway Tango and extending toward CPT-06.

Farther southeast at CPT-05 and east at CPT-06, the highest cVOC concentrations are slightly deeper at depths of 30–35 feet below grade; these TCE results do not indicate source area concentrations. CPT-06 also had low concentrations of benzene (11–13 µg/L) at depths of 30 and 35 feet exceeding the groundwater standard of 5 µg/L. Generally, BTEX were not detected in groundwater samples collected from CPT-01 through CPT-06. Except for the benzene and toluene concentrations described above for CPT-03 and CPT-06, the remaining BTEX concentrations were less than groundwater standards. At the TT Median Area (CPT-01 through CPT-06), one or more cVOCs are at concentrations above groundwater standards, at depths ranging from 24 feet at CPT-04 to 50 feet at CPT-01.

4.2.2 Taxiway Tango Area East

CPT-07 through CPT-10 were advanced in TT East at locations surrounding wells DMW-1A/B, which have high concentrations of cVOCs. Northwest of DMW-1A/B, historical probe sample PA-7 (near location of CPT-08) had a TCE concentration of 220,000 µg/L in the groundwater of the upper surficial aquifer. As shown in Figure 4-4, the highest concentrations of cVOCs in probe groundwater samples CPT-07 through CPT-09 were detected at depths of 25–30 feet below grade. The 30-foot sample at CPT-08 has the highest concentrations of TCE (40,000 µg/L) and *cis*-1,2-DCE (34,000 µg/L). The highest VC concentration was 110,000 µg/L at a depth of 25 feet at CPT-09. The highest concentrations of benzene and toluene were at 25 feet at CPT-08

(benzene at 470 µg/L) and 25 feet at CPT-09 (toluene at 15,000 µg/L). The depth of the maximum cVOC concentrations at CPT-07, CPT-08, and CPT-09 (25–30 feet) is similar to the 30-foot depth for the maximum cVOC concentrations at CPT-05 and CPT-06, located west and northwest of CPT-07 through CPT-10.

The CPT lithologic logs show the highest cVOC concentrations at 30–35 feet at CPT-07, CPT-08, and CPT-09. These concentrations appear to coincide with fine-grained soils (silt, silt mixtures, clays) found at these depths. This also seems to be the case at CPT-06 and, to a lesser degree, at CPT-05 (i.e., the presence of a thin sandy zone between two bounding clay layers). At CPT-08, dissolved-phase cVOC concentrations (e.g., TCE at 160 µg/L) are indicated in the overlying sand at 20–26 feet (in 20- and 25-foot groundwater samples) and in the underlying sand and gravel material (e.g., TCE at 1,800 µg/L in the 40-foot sample). The TCE concentration of 40,000 µg/L at CPT-08 is less than the TCE reported for probe sample PA-7, but is greater than the TCE concentration in probe groundwater samples from location MIP-30 (2,020 and 13,000 µg/L), which is farther northwest from DMW-1A/B than CPT-08. The TCE concentration for CPT-08 at 30 feet (40,000 µg/L) indicates a TCE groundwater source in this area.

The highest concentrations of TCE for CPT-09 and CPT-10 (4,200 µg/L and 400 µg/L, respectively), located northeast and southeast of DMW-1A/1B and hydraulically downgradient of CPT-08, were in the deeper samples collected at 50 feet. These samples were collected in sand and sand mixtures, according to the CPT logs, and are considered to represent dissolved-phase TCE concentrations. High concentrations of *cis*-1,2-DCE and VC at CPT-09 indicate that degradation of TCE is occurring hydraulically upgradient (at the apparent source area) near CPT-08 and well DMW-1A.

The appearance of TCE at CPT-10 coincides with sand and silt at 30 feet. TCE concentrations for CPT-10 at 20–30 feet are consistent with TCE concentrations found in surrounding upper and intermediate surficial-aquifer wells in 2012 (i.e., not detected in upper surficial-aquifer wells DMW-1S, DMW-8S, MW-23S, and at low concentrations in the intermediate surficial aquifer well MW-23I). The maximum TCE concentration (400 µg/L) in CPT-10 at 50 feet is approximately six times less than 2012 concentrations in intermediate zone well DMW-1A (TCE at 2,300 µg/L; well screen at 45-55 feet), and is similar to intermediate zone well DMW-8I (TCE

at 530 µg/L) located northeast of CPT-10. At CPT-07 through CPT-10, concentrations of one or more cVOC concentrations are above groundwater standards at depths of 55–60 feet below grade.

4.2.3 Drum Area

CPT-11 through CPT-15 were advanced in the DA at locations surrounding well DMW-7S, which has had some of the highest cVOC concentrations at the DRA. Previous shallow-probe groundwater samples collected around well DMW-7S had TCE concentrations in the upper surficial aquifer ranging from 12,000–130,000 µg/L, indicating a possible dense non-aqueous-phase liquid (DNAPL) TCE source.

As shown in Figure 4-4, the highest concentrations of cVOCs in the probe groundwater samples CPT-11 through CPT-15 were detected at depths of 25–40 feet below grade. The 30-foot sample at CPT-13 has the highest concentrations of TCE (17,000 µg/L). The two highest concentrations of *cis*-1,2-DCE (560,000 µg/L and 1,900 µg/L) were at 25 and 30 feet depths, respectively, at CPT-13. As shown in Figure 4-5, BTEX were not widely detected at the DA samples. Toluene was detected in all but one sample at CPT-13, but all concentrations are less than its groundwater standard (1,000 µg/L). A single concentration of benzene (6 µg/L at 50 feet) at CPT-15, located west of DMW-7S, slightly exceeds the benzene groundwater standard of 5 µg/L.

The CPT lithologic logs record the highest cVOC concentrations at 25–35 feet at CPT-11 (TCE), CPT-12 (TCE), CPT-13 (VC), and CPT-15 (TCE), which appears to coincide with fine-grained soils (very stiff fine grained, and stiff sand to clayey sand) found at these depths. Most detected TCE concentrations are indicative of dissolved-phase cVOCs concentrations. However, high TCE concentrations at CPT-13 (17,000 µg/L at 30 feet and 9,600 µg/L at 40 feet), CPT-11 (7,200 µg/L at 35 feet), and CPT-12 (8,000 µg/L at 30 feet) indicate that DNAPL may be in nearby areas of the upper surficial aquifer. High concentrations of *cis*-1,2-DCE (190,000-560,000 µg/L) at 25–30 feet at CPT-13 suggest that degradation of TCE is likely occurring hydraulically upgradient of CPT-13.

By contrast, *cis*-1,2-DCE concentrations in shallow groundwater near CPT-13 area in 2002 (before the treatability study) ranged from 2,100–25,000 µg/L at probe-sampling locations DA-6, DA-8, and DA-9 (sampled at depths of 26–28 feet below grade). The 2012 *cis*-1,2-DCE

concentrations are eight to 20 times greater than the 2002 *cis*-1,2-DCE concentrations, and may reflect enhanced TCE-biodegradation from treatability-study injection tests conducted upgradient of CPT-13, near wells DMW-7S and MW-5, in December 2004. Concentrations of at least two cVOCs in groundwater at CPT-11 through CPT-15 are above groundwater standards at depths of 50–60 feet below grade.

4.2.4 Petroleum Hydrocarbon Area

CPT-16, CPT-17, and CPT-19 were advanced in the PHA at locations around wells (DMW-9S/I/D) that contain high concentrations of cVOC and the highest concentrations of petroleum hydrocarbons at the DRA. In 2012, TCE was detected at concentrations of 120 µg/L at DMW-9S, 1,000 µg/L at DMW-9I, and 2,500 µg/L at DMW-9D. VC was detected at a concentration of 11,000 µg/L in DMW-9S, indicating that degradation of parent VOCs is occurring. The highest concentration of benzene in well samples (280 µg/L in 2012) was detected at DMW-9S. Substantially lower concentrations of benzene are typically detected in deeper wells DMW-9I (21 µg/L in 2012) and DMW-9D (11 µg/L in 2012). TCE was not detected in nearby wells (e.g., MW-4) or in previous shallow-probe groundwater samples (PA-2 and PA-3) collected around well DMW-9S/I/D; however, TCE was detected at 310 µg/L in shallow groundwater at probe-sampling location PA-3, west of DMW-9S/I/D. Therefore, CPT-16, CPT-17, and CPT-19 were advanced to further assess the extent of deep cVOCs and shallow petroleum hydrocarbons indicated by the results for nearby wells.

As shown in Figure 4-4, elevated TCE concentrations were detected at CPT-16, CPT-17, and CPT-19 at two depths: 30 feet (CPT-16 and CPT-17) and 50–55 feet (the deepest samples, collected at CPT-16 and CPT-19). West and east of wells DMW-9S/I/D at CPT-16 and CPT-19, the highest TCE concentrations (1,700-2,900 µg/L) are at depths of 50–55 feet, which is consistent with higher TCE concentrations at deep well DMW-9D (60–70 feet below grade). The CPT-16 and CPT-17 lithologic logs indicate that the high TCE concentrations at 30 feet are associated with sand mixtures.

As shown in Figure 4-6, BTEX was predominantly detected southwest and northeast of DMW-9S/I/D at CPT-16 and CPT-19. The results indicate that CPT-17 is near the northern edge of BTEX plume in this area: toluene and ethylbenzene were not detected, and xylenes were detected infrequently and at low concentrations. Two low benzene concentrations of 7 µg/L

(detected at 25 and 30 feet) only slightly exceed the groundwater standard (5 µg/L). At CPT-16, toluene, ethylbenzene, and xylenes were detected in all samples from 20–55 feet, with high maximum concentrations (2,500–56,000 µg/L) at 45 feet.

The CPT-16 lithologic log indicates that the maximum concentrations are associated with sand mixtures, silt mixtures, and very stiff fine-grained materials at 43–45.5 feet below grade. Concentrations at CPT-16 are substantially lower in sand; sand and gravels were logged above and below the finer materials logged at 43–45.5 feet. At CPT-19, higher concentrations of BTEX were found at 20–25 feet, with benzene concentrations (190-220 µg/L) similar to those reported in 2012 for DMW-9S (280 µg/L), which is installed at this approximate depth. Although benzene was detected at concentrations above the groundwater standard in all CPT-19 samples, toluene, ethylbenzene, and xylenes were not detected in the deeper CPT-19 samples collected at 45 and 50 feet.

4.2.5 Area East of Pond 1

CPT-20 and CPT-21 were advanced east of Pond 1 in an area that has not been extensively studied to evaluate groundwater quality in areas hydraulically downgradient of the pond. High concentrations of cVOCs and petroleum VOCs were detected in shallow-sediment samples previously collected in Pond 1. CPT-22 was installed in an area identified as having a temporary disposal pit operating in the mid-1950s, based on historical aerial photographs.

As shown in Figure 4-4, cVOCs were detected at CPT-20 in most samples from 20–55 feet, with maximum concentrations of TCE (1,200 µg/L) and *cis*-1,2-DCE (4,200 µg/L) occurring at 30 feet, and the maximum VC concentration (3,100 µg/L) occurring at 35 feet. The CPT-20 lithologic log indicates that these maximum concentrations are associated with stiff sand and clayey sand. The cVOC concentrations at CPT-20 are substantially lower in the sand and gravely sand logged above and below the finer materials (logged at approximately 31 feet).

East of Pond 1 at CPT-21, only trace concentrations of cVOCs (maximum *cis*-1,2-DCE concentration of 4 µg/L), benzene, and toluene were detected. Benzene and toluene (at 1 µg/L each) were only detected in the 25-foot sample. TCE, *cis*-1,2-DCE, and VC were not detected in the deepest samples collected at 40–50 feet. The CPT-21 lithologic log indicates the subsurface in this location is comprised primarily of clay, silt mixtures, and infrequent sand mixtures.

South of Pond 1 at CPT-22, cVOCs were detected in most samples collected from 20–40 feet, with the maximum concentration of TCE (140 µg/L) at 40 feet. Lithology could not be logged at CPT-22 below 38 feet due to CPT-probe refusal, but the materials logged at the bottom of the boring with the TCE maximum concentration were silt mixtures, stiff sand to clayey sand, and very stiff fine-grained material.

4.2.6 Taxiway Tango Area North

CPT-18 was advanced in TT North at a location east of the taxiway and northwest of wells MW-33S/I, south of well MW-35S, and northeast of well MW-36S. Groundwater samples collected in 2012 indicate low to moderate concentrations of cVOCs and benzene at wells MW-33S (TCE at 110 µg/L and benzene at 2.8 µg/L) and MW-35S (TCE at 2.4 µg/L and benzene at 0.13 µg/L), but not at MW-36S to the west. VOC concentrations below groundwater standards have not been determined northwest and west of well MW-33S. Furthermore, prior soil sampling results indicate cVOCs at shallow depths in the area of CPT-18.

The CPT log for CPT-18 indicates primarily silt and sand mixtures from the ground surface to the bottom depth (60 feet below grade). Several thin clay layers approximately one-foot thick or less were logged from 6–20 feet. Additional small layers of clay are found at 36, 38, and 42 feet. Groundwater was encountered at approximately nine-feet below grade.

As shown in Figure 4-4, low to moderate concentrations of cVOCs were detected at CPT-18 ranging from 1 µg/L for VC to 69 µg/L for TCE. Concentrations of both TCE and VC exceed their respective groundwater standards in one or more samples at CPT-18, but only to a maximum depth of 35 feet. Concentrations of all three cVOCs are less than the groundwater standards in samples collected from 40 and 45 feet: most cVOCs were not detected in these deeper samples. As shown in Figure 4-6, benzene was detected at concentrations above the groundwater standard (5 µg/L) at 30 and 35 feet (6 and 18 µg/L, respectively) at CPT-18. The CPT log indicates that the higher cVOC and benzene concentrations at these depths are in sands and sand mixtures. The downward extent of the VOCs appears inhibited by lower permeability clays found at depths of 36, 38, and 42 feet.

4.3 SOIL SAMPLING

Elevated levels of VOCs were typically detected in the shallow soil samples collected from the well soil borings MW-40 through MW42. Results for the soil samples are shown in Table 4-2 and Figure 4-7. At well MW-40 at the DA, PCE (2,000 µg/kg) and high concentrations of TCE were detected in soil at 4–6 feet (68,000 µg/kg) and at 9–11 feet (61,000 µg/kg). Low BTEX concentrations were detected in these samples. Total BTEX detected at well MW-41 were 79,790 µg/kg at 6–10 feet and 61,702 µg/kg at 7.5 feet. TCE and lower concentrations of BTEX (930 µg/kg) were detected in deeper soil samples collected from the soil boring for MW-41. BTEX were detected in soil 8–10 feet deep at well MW-42 at high concentrations (356,300 µg/kg; predominantly xylenes). TCE (1,600 µg/kg) was detected in soil at 0–2 feet at MW-42.

4.4 POND WATER AND GROUNDWATER LEVEL MONITORING AND CHEMICAL SAMPLING

Figures 4-8 and 4-9 show plots of water levels from the pond stilling wells (STWL-1 and STWL-2) and groundwater monitoring wells MW-43S and MW-44S. Water elevations were constant over the monitoring period in both plots, except for a period of high precipitation from October 28–30, 2012 during hurricane Sandy. Both the pond and groundwater levels responded to this precipitation event. Over these three days, 7.18 inches of rain were recorded at the Maryland Science Center in Baltimore, Maryland. This rainfall resulted in pond-water surface elevations rising approximately 0.8 feet in Pond 1 and approximately one foot in Pond 2.

Groundwater levels also rose slightly less than a foot at MW-43S and more than a foot at MW-44S. Recharge from the rainfall at well MW-43S (Figure 4-8) lagged the rise in Pond 1 because silty clay soils are present at 5–9 feet below grade at well MW-43S, and because of the deep potentiometric surface (13 feet below grade) at that location. The water level in MW-43S continued to rise after rainfall ended on October 30 until November 7, when the water level in MW-43S was then drawn down from sampling. Conversely, recharge at well MW-44S (Figure 4-9) occurred rapidly (within the same day) due to a shallow water table and the presence of more permeable silt and gravel in the shallow subsurface at well MW-44S.

On October 30, 2012, the groundwater elevation at MW-44S exceeded the water surface elevation in Pond 2. After recharge at MW-44S was complete, the groundwater table decreased until it was approximately 0.25 feet below the surface elevation of Pond 2. Water levels

decreased slowly in both ponds and at MW-44S after the storm. A small increase in water levels was observed in both ponds and MW-44S on November 8, 2012 in response to rainfall (recorded as 0.39 inch). Subsequently, water levels in both ponds and MW-44S decreased slowly for the remaining monitoring period.

Stilling wells STW-1 and STW-2 and groundwater monitoring wells MW-43S and MW-44S were sampled on November 6, 2012. Water levels in well MW-43S recovered slowly after sampling and required approximately seven days to reach the static groundwater level. Water level responses to recharge from hurricane Sandy precipitation lagged that of Ponds 1 and 2.

The results of the stilling well and monitoring well chemical sampling are shown in Tables 4-3 and 4-4 and Figure 4-10. Numerous VOCs, three SVOCs, and metals were detected in the Pond 1 stilling well sample EP1-STW-1. Both cVOCs (TCE, *cis*-1,2-DCE, and VC) and petroleum VOCs (toluene, ethylbenzene, xylenes, and benzene isomers) were detected in the Pond 1 water sample. Concentrations of toluene, xylenes, chlorobenzene, barium, and cadmium exceeded their respective freshwater screening criteria. Toluene (330 µg/L) exceeded its criterion (2 µg/L) by the largest margin (by a factor of 165 times). Concentrations of all analytes detected in groundwater at MW-43S were less than groundwater screening levels.

In the Pond 2 stilling well sample (EP2-STW-2), one VOC, two SVOCs, and metals were detected. Naphthalene, a component of petroleum fuels, was detected in the Pond 2 sample via both VOC and SVOC analyses. However, the naphthalene concentration obtained from the VOC analysis was flagged with a "*B*" data qualifier, indicating that this naphthalene concentration (0.99 µg/L) is not substantially greater than the concentration reported in laboratory blanks during the analyses.

Of the analytes detected in sample EP2-STW-2, only barium exceeded the freshwater screening criterion. Naphthalene was also detected in the MW-44S groundwater sample at a concentration of 790 µg/L, which is more than three orders of magnitude (i.e., more than 1,000 times) greater than its groundwater screening criterion of 0.65 µg/L. Other analytes exceeding the groundwater screening levels include several SVOCs (2-methylnaphthalene, 1,4-dioxane, acenaphthalene, carbazole, dibenzofuran) and the metal vanadium.

4.5 WELL GROUNDWATER SAMPLING

The groundwater sampling results from the new monitoring wells are shown in Table 4-5. Analytes exceeding groundwater screening levels are shown in Figure 4-11. As shown in the table and figure, VOCs exceed groundwater screening levels most often. Of note is the elevated cVOC concentrations in well MW-45S. This well is installed at a shallow depth (12 feet) northwest of wells DMW-1A and DMW-1B.

TCE, *cis*-1,2-DCE, and VC were detected in MW-45S at concentrations of 52,000 µg/L, 38,000 µg/L, and 17,000 µg/L, respectively. This TCE concentration is equal to the high TCE concentration detected in monitoring well DMW-11S in March 2004, is slightly less than the highest concentration detected at MW-5, and is the highest TCE concentration detected in 2012 for DRA groundwater samples obtained from monitoring wells. High concentrations of total petroleum hydrocarbons-gasoline-range organics (TPH-GRO) (44,000 µg/L), toluene (2,200 µg/L), methylene chloride (2,900 µg/L), 1,4-dioxane (1,600 µg/L), cadmium (2,800 µg/L), and chromium (1,600 µg/L), and moderately elevated nickel (220 µg/L) were also detected at MW-45S. TCE was detected at substantially lower concentrations at deeper wells MW-41S (520 µg/L) and MW-41I (73 µg/L).

The results for MW-40S and MW-40I extend the area of high cVOC concentrations from DMW-7S/I/D westward, to the main portion of the DA. Wells MW-40S and MW-40I had TCE concentrations of 3,900 µg/L and 6,800 µg/L, respectively. These concentrations are similar to the TCE concentration in DMW-7S, which was 4,700 µg/L in 2012. Results at MW-40I indicate a much higher TCE concentration (6,800 µg/L) in the intermediate surficial-aquifer zone than indicated by the upgradient well MW-19I (39 µg/L in 2012) and the downgradient well DMW-7I (360 µg/L in 2008).

The results for MW-42S and MW-42I extend the area of cVOCs and BTEX between DMW-9S/I/D and Taxiway Tango. Well MW-42S has higher concentrations of major cVOCs (2,140 µg/L) and BTEX (4,381 µg/L, with benzene at 31 µg/L) than does well MW-42I, with concentrations of major cVOCs at 171 µg/L (with TCE at 38 µg/L) and BTEX at 19.6 µg/L (benzene was not detected). Low concentrations of benzene have been detected at wells DMW-10S and MW-26S, but TCE has not been detected at these wells.

4.6 POND SURFACE WATER SAMPLING

Sampling results for pond water are shown in Table 4-6. Analytes exceeding the screening criteria are shown in Figure 4-12. Of the analytes detected in pond water samples, only metals concentrations exceed their respective screening levels.

Low concentrations of the VOCs toluene (in six samples), carbon disulfide (in three samples), and acetone (in six samples) were detected in Pond 1 samples; VOCs were not detected in Pond 2 surface water samples. Concentrations of each VOC are similar at each sampling location, with slightly higher estimated toluene concentrations of 0.28 µg/L and 0.26 µg/L at EP1-SW12 and EP1-SW9, respectively. Acetone, a common laboratory contaminant, was found in laboratory blank samples during analyses of Pond 2 surface water samples; this is indicated by the "*B*" data validation qualifier assigned to acetone values.

Concentrations of five metals exceed their respective screening levels: barium, cadmium, chromium (Pond 1 only), lead (Pond 2 only), and mercury (Pond 1 only). Total and dissolved barium exceeds its screening level (4 µg/L) in Pond 1 at EP1-SW7 (8.7 µg/L and 5 µg/L, respectively) and in Pond 2 at EP2-SW3 (38 µg/L and 35 µg/L, respectively) and EP2-SW5 (41 µg/L and 37 µg/L, respectively). Cadmium exceeds its screening level (0.25 µg/L) at five of six locations in Pond 1 (ranging from 0.27 µg/L at EP1-SW10 to 2.2 µg/L at EP1-SW9), and in both samples from Pond 2 (0.37 µg/L at EP2-SW3 and 0.4 µg/L at EP2-SW5). Chromium exceeds its screening level (11 µg/L) at two locations in Pond 1, with concentrations of 18 µg/L and 22 µg/L at EP1-SW7 and EP1-SW9, respectively. Mercury had only one exceedance of its screening level (0.026 µg/L), in Pond 1 at EP1-SW13 (0.13 µg/L), whereas lead exceeded its screening level (11 µg/L) in both samples from Pond 2 (5 µg/L at EP2-SW3 and 4.9 µg/L at EP2-SW5). Only dissolved barium (i.e., filtered sample results) exceeds a screening level for dissolved metals in water samples. All other dissolved metals concentrations are below screening levels.

Comparisons of metals concentrations between the ponds indicate several differences. At Pond 2, the concentration of dissolved lead at EP2-SW5 (2 µg/L) is six times greater than at EP2-SW3 (0.33 µg/L), and the dissolved vanadium concentration at EP2-SW5 (3.3 µg/L) is more than two times greater than the concentration at EP2-SW3 (1.3 µg/L). Pond 1 total and dissolved chromium concentrations are two to approximately 10 times greater than those for Pond 2.

However, Pond 2 samples have higher concentrations of barium, cadmium, cobalt, copper, lead, nickel, vanadium, and zinc than do Pond 1 samples. Hexavalent chromium concentrations (0.025-0.027 µg/L) in two Pond 1 samples (EP1-SW12 and EP1-SW7) are low, as are Pond 2 concentrations (0.031-0.036 µg/L) in samples EP2-SW3 and EP2-SW5.

4.7 POND SEDIMENT SAMPLING

4.7.1 Pond 1

As shown in Table 4-7 and Figure 4-13, several VOCs, polychlorinated biphenyls (PCBs), metals, and TPH-diesel-range organics (DRO) and TPH-GRO were detected in sediment samples collected from Pond 1. Most results are qualified as estimated ("*J*" data validation flag) due to the low percentage of solids in the samples; this is common in soft, saturated bottom sediments. Numerous VOCs, many metals, and most PCB concentrations exceed ecological screening levels. Concentrations of PCBs, metals, TPH-DRO, and TPH-GRO exceed the human health screening levels as well.

The only exceedance for TCE (55,000 µg/kg) was detected in EP1-SD9-1–2; both its human health (4,400 µg/kg) and ecological (96.9 µg/kg) screening levels were exceeded. Sample EP1-SD9-1-2 was collected from a depth of 1–2 feet below the sediment surface in the central portion of the pond near the western shoreline. TCE was detected at a low concentration of 84 µg/kg in the shallow sample (EP1-SD9-0-1) from this location. TCE was also detected in sample EP1-SD13-1–2, collected southeast of EP1-SD9; however, its concentration (190 µg/kg) was flagged with a "*B*" data qualifier, indicating the result could be an artifact of the laboratory analyses.

cis-1,2-DCE, a TCE-degradation product, was detected in samples EP1-SD9-0-1 (23 µg/kg) and EP1-SD9-1-2 (19,000 µg/kg), but exceeded only its ecological screening level (1050 µg/kg) in the deeper sample (i.e., EP1-SD9-1–2, at 1–2 feet below the sediment surface). *cis*-1,2-DCE was also detected at 1,700 µg/kg in sample EP1-SD11-1–2, collected east of EP1-SD9 near the center of the pond. These results indicate that elevated concentrations of cVOCs are in deeper Pond 1 sediments; thus, elevated concentrations may be in sediments below two feet near sampling locations EP1-SD9 and EP1-SD13.

Sediment sampling results show that petroleum VOCs in Pond 1 are at higher concentrations and are more widely spread throughout the sediment than cVOCs. Toluene, ethylbenzene, xylenes, and several benzene isomers (chlorobenzene, isopropylbenzene, etc.) are in both shallow (0–1 foot) and deeper (0–2 feet) sediment at concentrations that consistently exceed ecological screening levels. Concentrations of these petroleum VOCs are one to three orders of magnitude (i.e., 10–1000 times) higher in the 1–2 foot samples than in the 0–1 foot samples. The highest concentrations of petroleum VOCs are in samples EP1-SD9, EP1-SD11, and EP1-SD13, collected in the central portion of the pond.

Concentrations of PCBs, arsenic, barium, cadmium, chromium, lead, mercury, and silver exceed ecological screening levels. PCBs, arsenic, cadmium, chromium, and lead also exceed human health screening levels (see Figure 4-13 and Table 4-7). Cadmium, chromium, and lead have particularly elevated sediment concentrations, with cadmium and chromium exceeding screening levels in all samples by several orders of magnitude. Although the sediment chromium concentrations exceed the screening level (2.9 mg/kg) (which is based on the more toxic hexavalent chromium), these concentrations are less than the residential screening level of 120,000 mg/kg for (the less toxic) trivalent chromium. Similar to the VOCs, the highest PCB and metals concentrations are in the deeper 1–2 foot samples. PCBs, chromium, and other metals are highest in the north–central portion of the pond at EP1-SD7, EP1-SD8, EP1-SD11, and EP1-S13.

The results of the sediment sample analyses indicate that Pond 1 is a possible source of VOCs and metals to surface water and groundwater. Petroleum VOCs are at higher concentrations and are more widespread in Pond 1 sediment than are cVOCs. Elevated levels of cVOCs appear limited to a smaller area of the pond, near EP1-SD9 and EP1-SD13; these sampling locations are along the western shoreline in the central portion of the pond. High concentrations of VOCs, PCBs, and metals in the 1–2 foot samples indicate that these constituents may also be at elevated concentrations in sediment below two feet.

4.7.2 Pond 2

As shown in Table 4-8 and Figure 4-14, several VOCs, a PCB, metals, and TPH-DRO and TPH-GRO were detected in sediment samples from Pond 2. Of these, one VOC (carbon disulfide in deeper samples only), one PCB detection (in EP2-SD3), and several metals exceed screening levels. Most screening level exceedances are for the ecological levels; only arsenic, chromium,

and cobalt (four samples) in Pond 2 sediment samples exceed the human health residential screening criteria. However, arsenic concentrations (4–8.1 mg/kg) in these sediment samples are only slightly greater than the MDE anticipated typical concentration of 3.6 mg/kg, which is a state-determined background reference concentration for arsenic in the soils of eastern Maryland (MDE, 2008). Therefore, these arsenic concentrations are likely background concentrations. In addition, the chromium criterion (2.9 mg/kg) is based on hexavalent chromium. Soil analyses conducted as part of the remedial investigation (Tetra Tech, 2012d) for both total chromium and hexavalent chromium have indicated that hexavalent chromium is typically a very small percentage of total chromium in the DRA.

The results of the sediment sample analyses indicate that Pond 2 is not a potential source of VOCs to surface water or groundwater. Only trace to low concentrations of VOCs were detected in both the 0–1 foot and 1–2 foot sediment samples. Common DRA cVOCs (such as PCE, TCE, *cis*-1,2-DCE, and VC) were not detected in these samples, and only trace concentrations of the petroleum VOCs ethylbenzene (in one sample only) and toluene (in two samples) were detected. Furthermore, several VOCs, such as acetone, methylene chloride, and naphthalene, were flagged with "*B*" data qualifiers, indicating that these results are not substantially greater than the concentrations detected in laboratory blank samples. As such, concentrations of these three constituents may be artifacts of the laboratory analyses.

TABLE 4-1

GROUNDWATER LEVELS AND ELEVATIONS, OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Well ID	Aquifer Level	Elevation Top of Well Casing NAVD88 Feet	Depth to Groundwater Top of Well Casing 10/4/2012 Feet	Groundwater Elevation NAVD88 10/4/2012 Feet
DMW-1S	S	11.08	9.62	1.46
DMW-2S	S	21.75	21.28	0.47
DMW-3S	S	16.52	12.00	4.52
DMW-4S	S	20.52	19.99	0.53
DMW-5S	S	21.34	20.75	0.59
DMW-6S	S	18.62	18.18	0.44
DMW-7S	S	21.84	20.92	0.92
DMW-8S	S	15.80	14.98	0.82
DMW-9S	S	11.45	10.23	1.22
MW-10S	S	10.29	8.73	1.56
MW-11S	S	9.20	6.20	3.00
MW-15S	S	8.60	7.60	1.00
MW-16S	S	10.20	9.42	0.78
MW-17S	S	7.61	6.92	0.69
MW-18S	S	8.89	8.22	0.67
MW-20S	S	12.44	11.25	1.19
MW-23S	S	10.01	8.89	1.12
MW-24S	S	7.72	4.79	2.93
MW-25S	S	9.69	6.74	2.95
MW-26S	S	11.72	10.00	1.72
MW-3	S	11.19	9.68	1.51
MW-32S	S	7.27	6.30	0.97
MW-33S	S	9.97	8.06	1.91
MW-34S	S	7.44	5.92	1.52
MW-35S	S	12.63	10.05	2.58
MW-36S	S	11.88	8.90	2.98
MW-37S	S	10.70	7.55	3.15
MW-38S	S	10.81	NM	--
MW-39S	S	15.70	13.75	1.95
MW-4	S	10.34	9.06	1.28
MW-40S	S	17.48	17[(1)]	0.48
MW-41S	S	10.23	8.9[(1)]	1.33
MW-42S	S	8.88	7.6[(1)]	1.28
MW-43S	S	18.08	15.39[(2)]	2.69
MW-44S	S	9.21	3.68[(2)]	5.53
MW-45S	S	10.03	8.70	1.33
MW-5	S	22.65	21.88	0.77
MW-6	S	15.72	14.89	0.83
MW-7	S	10.90	8.78	2.12

TABLE 4-1

GROUNDWATER LEVELS AND ELEVATIONS, OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Well ID	Aquifer Level	Elevation Top of Well Casing NAVD88 Feet	Depth to Groundwater Top of Well Casing 10/4/2012 Feet	Groundwater Elevation NAVD88 10/4/2012 Feet
DMW-1A	I	12.05	10.70	1.35
DMW-2A	I	21.65	21.00	0.65
DMW-3I	I	16.45	15.65	0.80
DMW-4I	I	20.48	19.76	0.72
DMW-5I	I	21.39	20.76	0.63
DMW-6I	I	18.64	18.01	0.63
DMW-7I	I	21.90	21.12	0.78
DMW-8I	I	16.30	15.35	0.95
DMW-9I	I	11.40	10.23	1.17
MW-10I	I	10.27	8.80	1.47
MW-11I	I	9.15	7.58	1.57
MW-14I	I	11.72	11.08	0.64
MW-15I	I	8.79	7.38	1.41
MW-16I	I	10.06	8.74	1.32
MW-17I	I	7.68	6.18	1.50
MW-18I	I	8.91	8.30	0.61
MW-19I	I	7.90	7.10	0.80
MW-2	I	8.40	7.43	0.97
MW-20I	I	12.39	11.20	1.19
MW-21I	I	10.83	9.55	1.28
MW-22I	I	11.01	9.49	1.52
MW-23I	I	10.07	8.63	1.44
MW-24I	I	7.68	6.21	1.47
MW-25I	I	9.72	8.10	1.62
MW-26I	I	11.67	10.17	1.50
MW-28I	I	8.65	7.30	1.35
MW-30I	I	7.52	NM	--
MW-32I	I	7.28	6.32	0.96
MW-33I	I	10.02	8.05	1.97
MW-34I	I	7.37	5.20	2.17
MW-40I	I	17.59	16.50	1.09
MW-41I	I	10.23	8.90	1.33
MW-42I	I	8.87	7.50	1.37
DMW-1B	D	12.04	10.85	1.19
DMW-2B	D	21.66	20.79	0.87
DMW-3D	D	16.46	15.56	0.90
DMW-4D	D	20.44	19.69	0.75
DMW-5D	D	21.38	20.74	0.64
DMW-6D	D	18.51	17.98	0.53
DMW-7D	D	21.94	21.09	0.85
DMW-8D	D	16.35	15.31	1.04
DMW-9D	D	11.41	10.30	1.11
MW-15D	D	8.77	7.33	1.44
MW-16D	D	10.22	8.95	1.27
MW-17D	D	7.56	5.51	2.05
MW-18D	D	8.88	11.20	-2.32

TABLE 4-1

GROUNDWATER LEVELS AND ELEVATIONS, OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Well ID	Aquifer Level	Elevation Top of Well Casing NAVD88 Feet	Depth to Groundwater Top of Well Casing 10/4/2012 Feet	Groundwater Elevation NAVD88 10/4/2012 Feet
MW-19D	D	7.94	7.03	0.91
MW-20D	D	12.40	11.40	1.00
MW-21D	D	10.78	9.65	1.13
MW-22D	D	11.02	9.68	1.34
MW-23D	D	10.03	8.63	1.40
MW-26D	D	11.66	10.11	1.55
MW-14D	D1	11.56	10.80	0.76
MW-27D	DD	8.39	3.16	5.23
MW-29D	DD	11.43	12.30	-0.87
MW-30D	DD	8.26	4.95	3.31
MW-31D	DD	6.95	4.20	2.75

1 Water level taken from the groundwater sampling purge record

2 Water levels taken from initial readings on October 24-25, 2012 for the long-term groundwater level program (for MW-44S, depth to water is 5.68 feet minus the 2-foot temporary well extension used for the long-term program).

NM - Not measured

S - Upper surficial aquifer

I - Intermediate surficial aquifer

D - Lower surficial aquifer

D1 - Clay unit underlying lower surficial aquifer

DD - Deep confined aquifer below the lower surficial aquifer

NAVD88 = North American Vertical Datum of 1988.

TABLE 4-2
ANALTES DETECTED IN SOIL SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE DEPTH - FEET BELOW GRADE	RESIDENTIAL SCREENING LEVEL[1]	NON-RESIDENTIAL SCREENING LEVEL[1]	HAZARDOUS WASTE REGULATORY LEVEL[2]	DR-MW-40 DR-MW-40-4-6 10/4/2012 4-6	DR-MW-40 DR-MW-40-9-11 10/4/2012 9-11	DR-MW-40 DR-MW-40-22-24 10/4/2012 22-24	DR-MW-40 DR-MW-40-30-32 10/4/2012 30-32	DR-MW-41 DR-MW-41-6-7.5 10/3/2012 6-7.5
VOLATILE ORGANIC COMPOUNDS (µg/kg)								
1,2,3-TRIMETHYLBENZENE	NA	NA	NA	2.3 U	110 J	0.17 U	0.21 U	10000
1,2,4-TRICHLOROBENZENE	78000	1000000	NA	99 U	63 U	7.4 U	9.2 U	130 J
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	68 U	200 J	5.1 U	6.3 U	21000
1,2-DICHLOROBENZENE	700000	9200000	NA	120 U	74 U	8.7 U	11 U	680 J
1,2-DICHLOROETHANE	7000	31000	NA	140 U	86 U	10 U	13 U	38 U
1,4-DICHLOROBENZENE	27000	120000	NA	110 U	69 U	8.1 U	10 U	31 U
2-BUTANONE	4700000	61000000	NA	580 U	370 U	44 U	54 U	160 U
4-ISOPROPYLTOLUENE	NA	NA	NA	65 U	41 U	4.9 U	6.1 U	2100
4-METHYL-2-PENTANONE	NA	NA	NA	650 U	410 U	49 U	61 U	180 U
BENZENE	12000	52000	NA	160 U	100 U	12 U	15 U	630 J
CARBON DISULFIDE	780000	10000000	NA	160 U	100 U	12 U	15 U	49 J
CHLOROBENZENE	160000	2000000	NA	87 U	150 J	6.5 U	8.1 U	680 J
CIS-1,2-DICHLOROETHENE	78000	1000000	NA	16000	39000	1100	470	26 U
ETHYLBENZENE	780000	10000000	NA	78 B	980 J	5.5 U	6.8 U	20000
ISOPROPYLBENZENE	780000	10000000	NA	88 U	56 U	6.6 U	8.2 U	2300
M+P-XYLENES	NA	NA	NA	150 J	900 J	6.3 U	7.8 U	47000
METHYLENE CHLORIDE	85000	380000	NA	1000 U	1800 B	78 U	97 U	300 U
NAPHTHALENE	160000	2000000	NA	210 B	110 B	7 B	13 B	3600
N-BUTYLBENZENE	NA	NA	NA	110 U	69 U	8.1 U	10 U	2900
N-PROPYLBENZENE	NA	NA	NA	190 U	120 U	14 U	18 U	3500
O-XYLENE	NA	NA	NA	120 U	110 J	8.6 U	11 U	12000
SEC-BUTYLBENZENE	NA	NA	NA	64 U	41 U	4.8 U	5.9 U	1400
TERT-BUTYLBENZENE	NA	NA	NA	88 U	56 U	6.6 U	8.2 U	300 J
TETRACHLOROETHENE	1200	5300	NA	2000 J	320 B	12 U	15 U	46 U
TOLUENE	630000	8200000	NA	230 U	150 B	17 U	21 U	160 J
TOTAL XYLENES	1600000	20000000	NA	150 B	1000 J	8.2 U	10 U	59000
TRANS-1,2-DICHLOROETHENE	160000	2000000	NA	1700 J	390 J	19 J	12 U	35 U
TRICHLOROETHENE	1600	7200	NA	68000	61000	220 J	100 B	37 U
VINYL CHLORIDE	90	4000	NA	240 U	160 U	18 U	23 U	69 U

TABLE 4-2
ANALTES DETECTED IN SOIL SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE DEPTH - FEET BELOW GRADE	RESIDENTIAL SCREENING LEVEL[1]	NON-RESIDENTIAL SCREENING LEVEL[1]	HAZARDOUS WASTE REGULATORY LEVEL[2]	DR-MW-40 DR-MW-40-4-6 10/4/2012 4-6	DR-MW-40 DR-MW-40-9-11 10/4/2012 9-11	DR-MW-40 DR-MW-40-22-24 10/4/2012 22-24	DR-MW-40 DR-MW-40-30-32 10/4/2012 30-32	DR-MW-41 DR-MW-41-6-7.5 10/3/2012 6-7.5
TENTATIVELY IDENTIFIED VOLATILE ORGANIC COMPOUNDS (µg/kg)								
BENZENE, 1,2,3,5-TETRAMETHYL-	NA	NA	NA	NA	NA	NA	NA	NA
METALS (mg/kg)								
ARSENIC	12[3]	12[3]	NA	13 J	5.7 K	1.4 J	0.8 J	3.8
BARIUM	1600	20000	NA	210	26 J	1.2 J	1.3 J	17 J
CADMIUM	3.9	51	NA	5.8	0.19 J	0.04 U	0.039 U	0.036 U
CHROMIUM	23	310	NA	67	36	1.9	2.1	11
LEAD	400	1000	NA	5300	16	0.6 B	0.76 B	4.4
MERCURY	2.3	31	NA	0.14 B	0.14 B	0.058 B	0.057 B	0.026 J
SELENIUM	39	510	NA	4.1 U	0.77 U	0.61 B	0.65 B	0.45 U
SILVER	39	510	NA	12	0.17 U	0.11 U	0.11 U	0.099 UL
PETROLEUM HYDROCARBONS (µg/kg)								
TPH-GRO (C06-C10)	230000	620000	NA	160	27000	130	82 J	560000
PETROLEUM HYDROCARBONS (mg/kg)								
TPH-DRO (C10-C32)	230	620	NA	870	16 U	14 J	19 J	1500
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (mg/kg)	NA	NA	NA	20000	26000	110 U	110 U	10000
PH (standard units)	NA	NA	<2; >12	7.82	5.90	5.04	4.88	8.21
TCLP METALS (mg/L)								
ARSENIC	NA	NA	5	NA	NA	NA	NA	0.017 J
BARIUM	NA	NA	100	NA	NA	NA	NA	0.15 J
CADMIUM	NA	NA	1	NA	NA	NA	NA	0.00066 U
CHROMIUM	NA	NA	5	NA	NA	NA	NA	0.011 J
LEAD	NA	NA	5	NA	NA	NA	NA	0.011 B
MERCURY	NA	NA	0.2	NA	NA	NA	NA	0.00014 B
SELENIUM	NA	NA	1	NA	NA	NA	NA	0.0041 U
SILVER	NA	NA	5	NA	NA	NA	NA	0.0022 UL
TCLP PESTICIDE/POLYCHLORINATED BIPHENYLS (µg/L)								
GAMMA-BHC (LINDANE)	NA	NA	400	NA	NA	NA	NA	0.044 J
TCLP SEMIVOLATILE ORGANIC COMPOUNDS (mg/L)								
1,4-DICHLOROBENZENE	NA	NA	7.5	NA	NA	NA	NA	0.00034 U

TABLE 4-2
ANALTES DETECTED IN SOIL SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE DEPTH - FEET BELOW GRADE	RESIDENTIAL SCREENING LEVEL[1]	NON-RESIDENTIAL SCREENING LEVEL[1]	HAZARDOUS WASTE REGULATORY LEVEL[2]	DR-MW-40 DR-MW-40-4-6 10/4/2012 4-6	DR-MW-40 DR-MW-40-9-11 10/4/2012 9-11	DR-MW-40 DR-MW-40-22-24 10/4/2012 22-24	DR-MW-40 DR-MW-40-30-32 10/4/2012 30-32	DR-MW-41 DR-MW-41-6-7.5 10/3/2012 6-7.5
TCLP VOLATILE ORGANIC COMPOUNDS (mg/L)								
1,2-DICHLOROETHANE	NA	NA	0.5	NA	NA	NA	NA	0.022 U
2-BUTANONE	NA	NA	NA	NA	NA	NA	NA	0.057 UR
BENZENE	NA	NA	0.5	NA	NA	NA	NA	0.013 U
CHLOROBENZENE	NA	NA	100	NA	NA	NA	NA	0.015 U
TETRACHLOROETHENE	NA	NA	0.7	NA	NA	NA	NA	0.029 U
TRICHLOROETHENE	NA	NA	0.5	NA	NA	NA	NA	0.017 U
VINYL CHLORIDE	NA	NA	0.2	NA	NA	NA	NA	0.022 U

TABLE 4-2
ANALTES DETECTED IN SOIL SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE DEPTH - FEET BELOW GRADE	RESIDENTIAL SCREENING LEVEL[1]	NON-RESIDENTIAL SCREENING LEVEL[1]	HAZARDOUS WASTE REGULATORY LEVEL[2]	DR-MW-41 DR-MW-41-6-7.5A 10/3/2012 6-7.5	DR-MW-41 DR-MW-41-7.5-10 10/3/2012 7.5-10	DR-MW-41 DR-MW-41-20-22 10/3/2012 20-22	DR-MW-41 DR-MW-41-24-26 10/3/2012 24-26	DR-MW-41 DR-MW-41-44-46 10/3/2012 44-46
VOLATILE ORGANIC COMPOUNDS (µg/kg)								
1,2,3-TRIMETHYLBENZENE	NA	NA	NA	NA	8000	0.19 U	0.16 U	0.82 U
1,2,4-TRICHLOROBENZENE	78000	1000000	NA	NA	13 U	120 J	19 J	0.72 U
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	NA	14000	5.6 U	4.8 U	0.44 U
1,2-DICHLOROBENZENE	700000	9200000	NA	NA	510	9.6 U	8.3 U	0.51 U
1,2-DICHLOROETHANE	7000	31000	NA	NA	18 U	47 J	100 J	0.53 J
1,4-DICHLOROBENZENE	27000	120000	NA	NA	14 U	19 J	7.7 U	0.59 U
2-BUTANONE	4700000	61000000	NA	NA	78 U	48 U	270 J	1.1 U
4-ISOPROPYLTOLUENE	NA	NA	NA	NA	1500	5.4 U	4.6 U	0.45 U
4-METHYL-2-PENTANONE	NA	NA	NA	NA	87 U	54 U	53 J	0.85 U
BENZENE	12000	52000	NA	NA	620	20 J	15 J	0.17 U
CARBON DISULFIDE	780000	10000000	NA	NA	22 U	13 U	12 U	0.45 U
CHLOROBENZENE	160000	2000000	NA	NA	580	7.2 U	6.2 U	0.41 U
CIS-1,2-DICHLOROETHENE	78000	1000000	NA	NA	12 U	1800	1600	12
ETHYLBENZENE	780000	10000000	NA	NA	17000	6 U	9.9 J	0.52 U
ISOPROPYLBENZENE	780000	10000000	NA	NA	1800	7.3 U	6.3 U	0.46 U
M+P-XYLENES	NA	NA	NA	NA	35000	7.2 B	24 B	0.62 U
METHYLENE CHLORIDE	85000	380000	NA	NA	140 U	86 U	100 J	1.2 U
NAPHTHALENE	160000	2000000	NA	NA	2700	7.5 U	6.5 U	0.37 U
N-BUTYLBENZENE	NA	NA	NA	NA	2300	9 U	7.7 U	0.49 U
N-PROPYLBENZENE	NA	NA	NA	NA	2800	16 U	13 U	0.41 U
O-XYLENE	NA	NA	NA	NA	9400	10 J	12 J	0.44 U
SEC-BUTYLBENZENE	NA	NA	NA	NA	1100	5.3 U	4.5 U	0.49 U
TERT-BUTYLBENZENE	NA	NA	NA	NA	220 J	7.3 U	6.3 U	0.44 U
TETRACHLOROETHENE	1200	5300	NA	NA	22 U	13 U	29 B	0.51 U
TOLUENE	630000	8200000	NA	NA	82 J	19 U	870	0.47 J
TOTAL XYLENES	1600000	20000000	NA	NA	44000	17 B	36 B	1 U
TRANS-1,2-DICHLOROETHENE	160000	2000000	NA	NA	17 U	10 U	13 J	0.44 U
TRICHLOROETHENE	1600	7200	NA	NA	18 U	1400	5300	1.3 J
VINYL CHLORIDE	90	4000	NA	NA	33 U	850	230 J	2 J

TABLE 4-2
ANALTES DETECTED IN SOIL SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE DEPTH - FEET BELOW GRADE	RESIDENTIAL SCREENING LEVEL[1]	NON-RESIDENTIAL SCREENING LEVEL[1]	HAZARDOUS WASTE REGULATORY LEVEL[2]	DR-MW-41 DR-MW-41-6-7.5A 10/3/2012 6-7.5	DR-MW-41 DR-MW-41-7.5-10 10/3/2012 7.5-10	DR-MW-41 DR-MW-41-20-22 10/3/2012 20-22	DR-MW-41 DR-MW-41-24-26 10/3/2012 24-26	DR-MW-41 DR-MW-41-44-46 10/3/2012 44-46
TENTATIVELY IDENTIFIED VOLATILE ORGANIC COMPOUNDS (µg/kg)								
BENZENE, 1,2,3,5-TETRAMETHYL-	NA	NA	NA	NA	11000 NJ	NA	NA	NA
METALS (mg/kg)								
ARSENIC	12[3]	12[3]	NA	NA	4	0.62 J	4	0.51 J
BARIUM	1600	20000	NA	NA	15 J	1 J	6.5 J	0.48 B
CADMIUM	3.9	51	NA	NA	0.07 J	2.2	3.4	0.034 J
CHROMIUM	23	310	NA	NA	17	54	21	1.7
LEAD	400	1000	NA	NA	5.7	0.84 J	1.3	0.29 J
MERCURY	2.3	31	NA	NA	0.02 U	0.018 U	0.018 J	0.017 U
SELENIUM	39	510	NA	NA	0.4 U	0.39 U	0.49 U	0.41 U
SILVER	39	510	NA	NA	0.088 UL	0.088 UL	0.11 UL	0.092 UL
PETROLEUM HYDROCARBONS (µg/kg)								
TPH-GRO (C06-C10)	230000	620000	NA	NA	1200000	690	130 B	56 B
PETROLEUM HYDROCARBONS (mg/kg)								
TPH-DRO (C10-C32)	230	620	NA	NA	840	11 U	11 U	11 U
MISCELLANEOUS PARAMETERS								
TOTAL ORGANIC CARBON (mg/kg)	NA	NA	NA	NA	9700	110 U	2100	1900
PH (standard units)	NA	NA	<2; >12	NA	8.03	7.92	5.15	7.75
TCLP METALS (mg/L)								
ARSENIC	NA	NA	5	NA	NA	NA	NA	NA
BARIUM	NA	NA	100	NA	NA	NA	NA	NA
CADMIUM	NA	NA	1	NA	NA	NA	NA	NA
CHROMIUM	NA	NA	5	NA	NA	NA	NA	NA
LEAD	NA	NA	5	NA	NA	NA	NA	NA
MERCURY	NA	NA	0.2	NA	NA	NA	NA	NA
SELENIUM	NA	NA	1	NA	NA	NA	NA	NA
SILVER	NA	NA	5	NA	NA	NA	NA	NA
TCLP PESTICIDE/POLYCHLORINATED BIPHENYLS (µg/L)								
GAMMA-BHC (LINDANE)	NA	NA	400	NA	NA	NA	NA	NA
TCLP SEMIVOLATILE ORGANIC COMPOUNDS (mg/L)								
1,4-DICHLOROBENZENE	NA	NA	7.5	NA	NA	NA	NA	NA

TABLE 4-2
ANALTES DETECTED IN SOIL SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE DEPTH - FEET BELOW GRADE	RESIDENTIAL SCREENING LEVEL[1]	NON-RESIDENTIAL SCREENING LEVEL[1]	HAZARDOUS WASTE REGULATORY LEVEL[2]	DR-MW-41 DR-MW-41-6-7.5A 10/3/2012 6-7.5	DR-MW-41 DR-MW-41-7.5-10 10/3/2012 7.5-10	DR-MW-41 DR-MW-41-20-22 10/3/2012 20-22	DR-MW-41 DR-MW-41-24-26 10/3/2012 24-26	DR-MW-41 DR-MW-41-44-46 10/3/2012 44-46
TCLP VOLATILE ORGANIC COMPOUNDS (mg/L)								
1,2-DICHLOROETHANE	NA	NA	0.5	NA	NA	NA	NA	NA
2-BUTANONE	NA	NA	NA	NA	NA	NA	NA	NA
BENZENE	NA	NA	0.5	NA	NA	NA	NA	NA
CHLOROBENZENE	NA	NA	100	NA	NA	NA	NA	NA
TETRACHLOROETHENE	NA	NA	0.7	NA	NA	NA	NA	NA
TRICHLOROETHENE	NA	NA	0.5	NA	NA	NA	NA	NA
VINYL CHLORIDE	NA	NA	0.2	NA	NA	NA	NA	NA

TABLE 4-2
ANALTES DETECTED IN SOIL SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE DEPTH - FEET BELOW GRADE	RESIDENTIAL SCREENING LEVEL[1]	NON-RESIDENTIAL SCREENING LEVEL[1]	HAZARDOUS WASTE REGULATORY LEVEL[2]	DR-MW-42 DR-MW-42-0-2 10/2/2012 0-2	DR-MW-42 DR-MW-42-9-10 10/2/2012 9-10	DR-MW-42 DR-MW-42-20-22 10/2/2012 20-22	DR-MW-42 DR-MW-42-34-35 10/2/2012 34-35
VOLATILE ORGANIC COMPOUNDS (µg/kg)							
1,2,3-TRIMETHYLBENZENE	NA	NA	NA	0.23 U	5900	0.16 U	0.57 U
1,2,4-TRICHLOROBENZENE	78000	1000000	NA	27 B	270 B	24 B	0.5 U
1,2,4-TRIMETHYLBENZENE	NA	NA	NA	17 J	15000	4.8 U	0.3 U
1,2-DICHLOROBENZENE	700000	9200000	NA	12 U	100 U	8.3 U	0.35 U
1,2-DICHLOROETHANE	7000	31000	NA	14 U	120 U	9.7 U	0.24 U
1,4-DICHLOROBENZENE	27000	120000	NA	11 B	96 U	11 B	0.41 U
2-BUTANONE	4700000	61000000	NA	59 U	520 U	42 U	0.75 U
4-ISOPROPYLTOLUENE	NA	NA	NA	6.6 U	1300 J	4.6 U	0.31 U
4-METHYL-2-PENTANONE	NA	NA	NA	66 U	580 U	46 U	0.59 U
BENZENE	12000	52000	NA	17 U	140 U	12 U	0.12 U
CARBON DISULFIDE	780000	10000000	NA	17 U	140 U	12 U	0.31 U
CHLOROBENZENE	160000	2000000	NA	8.8 U	77 U	6.2 U	0.29 U
CIS-1,2-DICHLOROETHENE	78000	1000000	NA	990	1100 J	1900	0.33 J
ETHYLBENZENE	780000	10000000	NA	30 J	12000	5.2 U	0.36 U
ISOPROPYLBENZENE	780000	10000000	NA	9 U	870 J	6.3 U	0.32 U
M+P-XYLENES	NA	NA	NA	610 J	300000	9.4 J	0.43 U
METHYLENE CHLORIDE	85000	380000	NA	110 U	930 U	74 U	0.86 U
NAPHTHALENE	160000	2000000	NA	23 B	2900 J	9.7 B	0.26 U
N-BUTYLBENZENE	NA	NA	NA	11 U	2000 J	7.7 U	0.34 U
N-PROPYLBENZENE	NA	NA	NA	19 U	1100 J	14 U	0.29 U
O-XYLENE	NA	NA	NA	71 J	35000	8.2 U	0.3 U
SEC-BUTYLBENZENE	NA	NA	NA	6.5 U	950 J	4.5 U	0.34 U
TERT-BUTYLBENZENE	NA	NA	NA	9 U	150 J	6.3 U	0.3 U
TETRACHLOROETHENE	1200	5300	NA	17 U	140 U	12 U	0.35 U
TOLUENE	630000	8200000	NA	29 J	4300	16 U	0.28 U
TOTAL XYLENES	1600000	20000000	NA	680 J	340000	9.4 J	0.72 U
TRANS-1,2-DICHLOROETHENE	160000	2000000	NA	27 J	110 U	8.9 U	0.3 U
TRICHLOROETHENE	1600	7200	NA	1600	180 J	110 J	0.25 U
VINYL CHLORIDE	90	4000	NA	25 U	220 U	270	0.23 U

TABLE 4-2
ANALTES DETECTED IN SOIL SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE DEPTH - FEET BELOW GRADE	RESIDENTIAL SCREENING LEVEL[1]	NON-RESIDENTIAL SCREENING LEVEL[1]	HAZARDOUS WASTE REGULATORY LEVEL[2]	DR-MW-42 DR-MW-42-0-2 10/2/2012 0-2	DR-MW-42 DR-MW-42-9-10 10/2/2012 9-10	DR-MW-42 DR-MW-42-20-22 10/2/2012 20-22	DR-MW-42 DR-MW-42-34-35 10/2/2012 34-35
TENTATIVELY IDENTIFIED VOLATILE ORGANIC COMPOUNDS (µg/kg)							
BENZENE, 1,2,3,5-TETRAMETHYL-	NA	NA	NA	NA	NA	NA	NA
METALS (mg/kg)							
ARSENIC	12[3]	12[3]	NA	4.2	1.6	1.4 J	2.1
BARIUM	1600	20000	NA	60	8.6 J	1.8 J	3.6 J
CADMIUM	3.9	51	NA	3.3	0.061 J	0.039 UL	0.038 UL
CHROMIUM	23	310	NA	21	12	5.1	4.9
LEAD	400	1000	NA	23	3.6	1.4	1.8
MERCURY	2.3	31	NA	0.3	0.016 U	0.016 U	0.025 J
SELENIUM	39	510	NA	0.89 J	0.43 U	0.49 U	0.48 U
SILVER	39	510	NA	0.1 UL	0.096 UL	0.11 UL	0.11 UL
PETROLEUM HYDROCARBONS (µg/kg)							
TPH-GRO (C06-C10)	230000	620000	NA	170 B	1300000	100 B	53 U
PETROLEUM HYDROCARBONS (mg/kg)							
TPH-DRO (C10-C32)	230	620	NA	71	1000	11 U	11 U
MISCELLANEOUS PARAMETERS							
TOTAL ORGANIC CARBON (mg/kg)	NA	NA	NA	5800	3600	100 U	100 U
PH (standard units)	NA	NA	<2; >12	7.85	7.88	6.17	5.33
TCLP METALS (mg/L)							
ARSENIC	NA	NA	5	NA	NA	NA	NA
BARIUM	NA	NA	100	NA	NA	NA	NA
CADMIUM	NA	NA	1	NA	NA	NA	NA
CHROMIUM	NA	NA	5	NA	NA	NA	NA
LEAD	NA	NA	5	NA	NA	NA	NA
MERCURY	NA	NA	0.2	NA	NA	NA	NA
SELENIUM	NA	NA	1	NA	NA	NA	NA
SILVER	NA	NA	5	NA	NA	NA	NA
TCLP PESTICIDE/POLYCHLORINATED BIPHENYLS (µg/L)							
GAMMA-BHC (LINDANE)	NA	NA	400	NA	NA	NA	NA
TCLP SEMIVOLATILE ORGANIC COMPOUNDS (mg/L)							
1,4-DICHLOROBENZENE	NA	NA	7.5	NA	NA	NA	NA

TABLE 4-2
ANALTES DETECTED IN SOIL SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE DEPTH - FEET BELOW GRADE	RESIDENTIAL SCREENING LEVEL[1]	NON-RESIDENTIAL SCREENING LEVEL[1]	HAZARDOUS WASTE REGULATORY LEVEL[2]	DR-MW-42 DR-MW-42-0-2 10/2/2012 0-2	DR-MW-42 DR-MW-42-9-10 10/2/2012 9-10	DR-MW-42 DR-MW-42-20-22 10/2/2012 20-22	DR-MW-42 DR-MW-42-34-35 10/2/2012 34-35
TCLP VOLATILE ORGANIC COMPOUNDS (mg/L)							
1,2-DICHLOROETHANE	NA	NA	0.5	NA	NA	NA	NA
2-BUTANONE	NA	NA	NA	NA	NA	NA	NA
BENZENE	NA	NA	0.5	NA	NA	NA	NA
CHLOROBENZENE	NA	NA	100	NA	NA	NA	NA
TETRACHLOROETHENE	NA	NA	0.7	NA	NA	NA	NA
TRICHLOROETHENE	NA	NA	0.5	NA	NA	NA	NA
VINYL CHLORIDE	NA	NA	0.2	NA	NA	NA	NA

TABLE 4-2
ANALTES DETECTED IN SOIL SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Notes:

1 Maryland Department of the Environment soil cleanup standards (MDE, 2008) unless noted otherwise.

2 TCLP regulatory levels-Title 40 Code of United States Federal Regulations Part 261

3 Site specific screening level developed for Middle River sites in Tetra Tech, Inc., (2010). *Final Soil Response Action Plan Block B, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland-Appendix E-Statistical Summary of Pre- and Post-Removal Data* . Prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. May 10.

Cells shaded gray indicate values that exceed the residential screening level.

Cells shaded black indicate values that exceed both residential and non-residential screening criteria.

B - analyte detected in laboratory blank
BTEX - benzene, toluene, ethylbenzene, xylenes
J - estimated concentration
K - value biased high
L - result biased low
MDE - Maryland Department of the Environment
µg/kg - micrograms per kilogram
µg/L - micrograms per liter
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
NA - not analyzed, not applicable
NJ - analyte is presumed present; result is estimated
TCLP - toxicity characteristics leaching procedure
R = result is not reliable due to technical noncompliance
U = not detected at the concentration shown left of the letter
-- = not detected

TABLE 4-3

ANALYTES DETECTED IN POND 1 WATER AND GROUNDWATER AT FOR MW-43S, NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Freshwater Screening Levels[1]	Groundwater Screening Levels[2]	EP1-STW1[3] EP1-STW1 11/6/2012	MW-43S[4] MW43-110712 11/7/2012
VOLATILES (UG/L)				
TETRACHLOROETHENE	111	5	--	0.33 J
TRICHLOROETHENE	21	5	15 J	--
CIS-1,2-DICHLOROETHENE	590	70	42	0.88 J
1,2-DICHLOROETHANE	100	5	--	0.25 J
VINYL CHLORIDE	930	2	8.6 J	0.54 J
CHLOROFORM	1.8	80	--	2.4
TOLUENE	2	1000	330	0.27 J
ETHYLBENZENE	90	700	16 J	--
M+P-XYLENES	1.8[5]	10000	35	--
O-XYLENE	1.8[5]	10000	15 J	--
TOTAL XYLENES	13	10000	50	--
1,2,3-TRIMETHYLBENZENE	33[6]	NA	3.2 J	--
1,2,4-TRIMETHYLBENZENE	33	NA	7.8 J	--
CHLOROBENZENE	1.3	100	6 J	--
ACETONE	1500	550	19 B	15
Tentatively Identifed Compounds - VOCs				
1,3,5-TRIMETHYLBENZENE	71	NA	2.5 NJ	--
SEMIVOLATILES (UG/L)				
NAPHTHALENE	1.1	0.65	0.58	--
2-METHYLNAPHTHALENE	4.7	2	0.28	--
ACETOPHENONE		NA	--	1.6
BIS(2-ETHYLHEXYL)PHTHALATE	16	6	0.78 J	0.91 J
DISSOLVED METALS (UG/L)				
ANTIMONY	30	6	1.2 B	0.75 B
ARSENIC	5	10	0.79 J	1.8 J
BARIUM	4	2000	30	120
CADMIUM	0.25	5	7.5	--
CHROMIUM	74	100	34	0.87 J
COBALT	23	NA	0.37 J	1.8
COPPER	9	1300	4.9	0.51 B
LEAD	2.5	15	1.5	--
MOLYBDENUM	73	NA	1.2 B	7.9 J
NICKEL	52	73	9.8	3.7
ZINC	120	5000	57	9.3 B
MISCELLANEOUS PARAMETERS				
HARDNESS AS CACO3 (MG/L)		NA	NA	300

-- = not detected.

1 - EPA Region 3 BTAG Freshwater Screening Benchmark July 2006)
(http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fw/R3_BTAG_FW_Benchmarks_07-06.pdf).

2 - MDE groundwater standards, (MDE, 2008).

3 - This is a pond surface water sample and is screened against freshwater screening levels only.

4 - This is a groundwater moniotirng well sample and is screened against groundwater screening levels only.

5 - Value is based on m-xylene

6 - Value is based on 1,2,4-trimethylbenzene

Shaded cell indicates value exceeds the applicable screening criterion.

TABLE 4-4

ANALYTES DETECTED IN POND 2 STILLING WELL POND WATER AND GROUNDWATER AT MW-44S, NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Freshwater Screening Levels[1]	Groundwater Screening Levels[2]	EP2-STW2[4] EP2-STW2 11/6/2012	MW-44S[5] MW44-110612 11/6/2012
VOLATILES (UG/L)				
NAPHTHALENE	1.1	0.65	0.99 B	790
SEMIVOLATILES (UG/L)				
2-METHYLNAPHTHALENE	4.7	2	--	18
1,4-DIOXANE	100[8]	3[3]	--	11
1,1-BIPHENYL	14	NA	--	5.8
2,4-DIMETHYLPHENOL	NA	73	--	3.1
3&4-METHYLPHENOL	543[7]	NA	--	2.2
ACENAPHTHENE	5.8	37	--	56
ACENAPHTHYLENE	5.8[6]	37	--	0.56
ANTHRACENE	0.012	180	--	3.2
CARBAZOLE	NA	3	--	22
DIBENZOFURAN	3.7	4	--	22
FLUORANTHENE	0.04	150	--	3.5
FLUORENE	3	24	--	22
NAPHTHALENE	1.1	0.65	0.15 J	460
PHENANTHRENE	0.4	180	--	24
PYRENE	0.025	18	--	1.7
BIS(2-ETHYLHEXYL)PHTHALATE	16	6	0.77 J	0.9 J
CAPROLACTAM	NA	NA	--	1.2 J
DISSOLVED METALS (UG/L)				
ANTIMONY	30	6	2.2 B	0.83 B
ARSENIC	5	10	1.6 J	2.5 J
BARIUM	4	2000	34	160
CADMIUM	0.25	5	--	0.52 J
CHROMIUM	74	100	0.71 UL	--
COBALT	23	NA	0.55 J	0.37 J
COPPER	9	1300	1.6 B	11
LEAD	2.5	15	0.2 J	3.1
MOLYBDENUM	73	NA	1.6 B	2.5 J
NICKEL	52	73	5	1.9 J
THALLIUM	0.8	2	--	0.14 B
VANADIUM	20	4	1.2 J	8 J
ZINC	120	5000	6.7 B	35

-- = not detected.

1 - EPA Region 3 BTAG Freshwater Screening Benchmark July 2006)
(http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fw/R3_BTAG_FW_Benchmarks_07-06.pdf).

2 - MDE groundwater standards, (MDE, 2008).

3 - State of California drinking water action level

4 - This is a pond surface water sample and is screened against freshwater screening levels only.

5 - This is a groundwater sample and is screened against groundwater screening levels only.

6 - Value is based on acenephthene

7 - Value is based on 4-methylphenol

8 - Buchman, M. F., 2008. NOAA Screening Quick Reference Tables, NOAA HAZMAT Report 99-1, Seattle, WA, Coastal Protection and Restoration Division, National Oceanic and Atmospheric Administration.
http://response.restoration.noaa.gov/cpr/sediment/squirt/squirt.html

Shaded cell indicates value exceeds the applicable screening criterion.

TABLE 4-5

ANALYTES DETECTED IN GROUNDWATER SAMPLES, OCTOBER-NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	MDE Groundwater Standards[1,2]	MW40I MW40I-101912 10/19/2012	MW40I MW40I-102212 10/22/2012	MW40S MW40S-101912 10/19/2012	MW40S MW40S-102212 10/22/2012	MW41I MW41I-101812 10/18/2012	MW41S MW41S-101812 10/18/2012
VOLATILE ORGANIC COMPOUNDS (µg/L)							
1,1,1-TRICHLOROETHANE	200	100 J	NA	--	NA	--	--
1,1-DICHLOROETHENE	7	54 J	NA	--	NA	2.5 J	--
1,2,3-TRIMETHYLBENZENE	NA	--	NA	--	NA	--	--
1,2,4-TRIMETHYLBENZENE	NA	--	NA	--	NA	--	--
1,2-DICHLOROETHANE	5	--	NA	180 J	NA	7.5 J	18 J
1,4-DICHLOROBENZENE	75	--	NA	--	NA	--	--
ACETONE	550	--	NA	--	NA	--	--
BENZENE	5	--	NA	--	NA	7.5 J	13 J
CHLOROBENZENE	100	--	NA	--	NA	4.1 J	--
CHLOROETHANE	4	--	NA	--	NA	6 J	--
CHLOROFORM	80	--	NA	--	NA	2.1 J	--
CIS-1,2-DICHLOROETHENE	70	8500	NA	14000	NA	330	570
ETHYLBENZENE	700	44 J	NA	--	NA	--	--
ISOPROPYLBENZENE	66	--	NA	--	NA	--	--
M+P-XYLENES	NA	--	NA	--	NA	--	--
METHYLENE CHLORIDE	5	--	NA	230 J	NA	4.2 J	78 J
NAPHTHALENE	0.7	--	NA	--	NA	--	--
N-PROPYLBENZENE	NA	--	NA	--	NA	--	--
O-XYLENE	NA	--	NA	--	NA	--	--
TETRACHLOROETHENE	5	--	NA	--	NA	--	--
TOLUENE	1000	190 J	NA	--	NA	1.8 J	37
TOTAL XYLENES	10000	--	NA	--	NA	--	--
TRANS-1,2-DICHLOROETHENE	100	80 J	NA	190 J	NA	--	--
TRICHLOROETHENE	5	6800	NA	3900	NA	73	520
VINYL CHLORIDE	2	--	NA	--	NA	440	830
TENTATIVELY IDENTIFIED VOLATILE ORGANIC COMPOUNDS (µg/L)							
1,3,5-TRIMETHYLBENZENE	NA	NA	NA	NA	NA	NA	NA

TABLE 4-5

ANALYTES DETECTED IN GROUNDWATER SAMPLES, OCTOBER-NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	MDE Groundwater Standards[1,2]	MW40I MW40I-101912 10/19/2012	MW40I MW40I-102212 10/22/2012	MW40S MW40S-101912 10/19/2012	MW40S MW40S-102212 10/22/2012	MW41I MW41I-101812 10/18/2012	MW41S MW41S-101812 10/18/2012
SEMIVOLATILE ORGANIC COMPOUNDS (µg/L)							
1,1-BIPHENYL	NA	--	NA	--	NA	--	--
1,4-DIOXANE	3[2]	17	NA	31	NA	140	210
2,4-DIMETHYLPHENOL	73	--	NA	--	NA	--	--
2-METHYLNAPHTHALENE	2	0.37	NA	--	NA	--	--
2-METHYLPHENOL	180	--	NA	--	NA	--	--
2-NITROPHENOL	NA	--	NA	--	NA	--	--
3&4-METHYLPHENOL	NA	1.3 J	NA	--	NA	--	--
4-NITROPHENOL	NA	--	NA	--	NA	--	--
ACENAPHTHENE	37	--	NA	--	NA	--	--
ACENAPHTHYLENE	37	--	NA	--	NA	--	--
ACETOPHENONE	NA	--	NA	--	NA	--	0.33 J
ANTHRACENE	180	--	NA	--	NA	--	--
BIS(2-ETHYLHEXYL)PHTHALATE	6	--	NA	--	NA	1.6 J	--
CAPROLACTAM	NA	--	NA	--	NA	--	--
CARBAZOLE	3	--	NA	--	NA	--	--
DIBENZOFURAN	4	--	NA	--	NA	--	--
DIMETHYL PHTHALATE	NA	3.2	NA	0.77 J	NA	--	--
FLUORANTHENE	150	--	NA	--	NA	--	--
FLUORENE	24	--	NA	--	NA	--	--
NAPHTHALENE	0.7	4.5	NA	0.39	NA	0.19	0.11 J
N-NITROSODIPHENYLAMINE	14	0.49 J	NA	--	NA	--	--
PHENANTHRENE	180	--	NA	--	NA	--	--
PHENOL	1100	0.79 J	NA	--	NA	--	--
PYRENE	18	--	NA	--	NA	--	--
METALS (µg/L)							
ANTIMONY	6	--	NA	--	NA	0.19 J	0.44 J
ARSENIC	10	1.3 J	NA	1.7 J	NA	1.6 J	2.7 J
BARIUM	2000	120	NA	32	NA	120	98
BERYLLIUM	4	--	NA	--	NA	--	0.89 J
CADMIUM	5	0.22 J	NA	0.46 J	NA	0.25 J	11
CHROMIUM	100	--	NA	--	NA	--	1.1 J
COBALT	NA	22	NA	15	NA	23	120

TABLE 4-5

ANALYTES DETECTED IN GROUNDWATER SAMPLES, OCTOBER-NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	MDE Groundwater Standards[1,2]	MW40I MW40I-101912 10/19/2012	MW40I MW40I-102212 10/22/2012	MW40S MW40S-101912 10/19/2012	MW40S MW40S-102212 10/22/2012	MW41I MW41I-101812 10/18/2012	MW41S MW41S-101812 10/18/2012
COPPER	1300	--	NA	--	NA	--	13
LEAD	15	--	NA	--	NA	--	0.6 J
MERCURY	2	--	NA	--	NA	--	0.14 J
MOLYBDENUM	NA	5.8 J	NA	--	NA	6.1 J	--
NICKEL	73	19	NA	7.1	NA	20	130
SELENIUM	50	--	NA	0.79 J	NA	--	5.5
VANADIUM	4	--	NA	0.45 J	NA	--	0.44 U
ZINC	5000	--	NA	--	NA	--	360
DISSOLVED METALS (µg/L)							
ANTIMONY	6	--	NA	--	NA	--	0.44 J
ARSENIC	10	1.8 J	NA	1.7 J	NA	1.8 J	2.9 J
BARIUM	2000	40	NA	33	NA	41	100
BERYLLIUM	4	--	NA	--	NA	--	0.86 J
CADMIUM	5	--	NA	0.79 J	NA	--	11
CHROMIUM	100	--	NA	--	NA	--	1 J
COBALT	NA	22	NA	15	NA	22	120
COPPER	1300	--	NA	--	NA	--	12
LEAD	15	--	NA	--	NA	--	0.5 J
MERCURY	2	--	NA	--	NA	--	--
MOLYBDENUM	NA	2.2 J	NA	--	NA	--	--
NICKEL	73	27	NA	7.6	NA	27	140
SELENIUM	50	--	NA	0.72 J	NA	--	5.4
VANADIUM	4	--	NA	--	NA	--	--
ZINC	5000	35	NA	--	NA	35	370
MISCELLANEOUS PARAMETERS							
HEXAVALENT CHROMIUM (µg/L)	100	NA	0.077 L	NA	0.022 J	0.054 L	0.9 L
HARDNESS, as calcium carbonate (mg/L)	NA	NA	NA	NA	NA	NA	NA
PETROLEUM HYDROCARBONS (µg/L)							
TPH-GRO (C06-C10)	47	7800	NA	7900	NA	250	670
TPH-DRO (C10-C32)	47	530 B	NA	--	NA	--	--

TABLE 4-5

ANALYTES DETECTED IN GROUNDWATER SAMPLES, OCTOBER-NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	MDE Groundwater Standards[1,2]	MW42I MW42I-101712 10/17/2012	MW42S MW42S-101712 10/17/2012	MW43S MW43-110712 11/7/2012	MW44S MW44-110612 11/6/2012	MW45S MW45S-101812 10/18/2012
VOLATILE ORGANIC COMPOUNDS (µg/L)						
1,1,1-TRICHLOROETHANE	200	--	--	--	--	--
1,1-DICHLOROETHENE	7	--	--	--	--	--
1,2,3-TRIMETHYLBENZENE	NA	--	20 J	--	--	--
1,2,4-TRIMETHYLBENZENE	NA	0.74 J	54	--	--	--
1,2-DICHLOROETHANE	5	--	--	0.25 J	--	440 J
1,4-DICHLOROBENZENE	75	--	12 J	--	--	--
ACETONE	550	--	--	15	--	--
BENZENE	5	--	31	--	--	--
CHLOROBENZENE	100	--	8.1 J	--	--	--
CHLOROETHANE	4	--	--	--	--	--
CHLOROFORM	80	3.1 J	--	2.4	--	--
CIS-1,2-DICHLOROETHENE	70	120	1600	0.88 J	--	38000
ETHYLBENZENE	700	0.62 J	240	--	--	--
ISOPROPYLBENZENE	66	--	5.8 J	--	--	--
M+P-XYLENES	NA	16	3800	--	--	--
METHYLENE CHLORIDE	5	--	--	--	--	2900 J
NAPHTHALENE	0.7	--	7.4 J	--	790	--
N-PROPYLBENZENE	NA	--	4.5 J	--	--	--
O-XYLENE	NA	1.8 J	390	--	--	--
TETRACHLOROETHENE	5	--	--	0.33 J	--	--
TOLUENE	1000	1 J	360	0.27 J	--	2200
TOTAL XYLENES	10000	18	4200	--	--	--
TRANS-1,2-DICHLOROETHENE	100	--	--	--	--	--
TRICHLOROETHENE	5	38	--	--	--	52000
VINYL CHLORIDE	2	13	540	0.54 J	--	17000
TENTATIVELY IDENTIFIED VOLATILE ORGANIC COMPOUNDS						
1,3,5-TRIMETHYLBENZENE	NA	NA	32 NJ	NA	NA	NA

TABLE 4-5

ANALYTES DETECTED IN GROUNDWATER SAMPLES, OCTOBER-NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	MDE Groundwater Standards[1,2]	MW42I MW42I-101712 10/17/2012	MW42S MW42S-101712 10/17/2012	MW43S MW43-110712 11/7/2012	MW44S MW44-110612 11/6/2012	MW45S MW45S-101812 10/18/2012
SEMIVOLATILE ORGANIC COMPOUNDS (µg/L)						
1,1-BIPHENYL	NA	--	--	--	5.8	--
1,4-DIOXANE	3[2]	11	7.7	--	11	1600
2,4-DIMETHYLPHENOL	73	--	36	--	3.1	--
2-METHYLNAPHTHALENE	2	--	--	--	18	0.62
2-METHYLPHENOL	180	--	3.9	--	--	--
2-NITROPHENOL	NA	--	--	--	--	2.3
3&4-METHYLPHENOL	NA	--	5.9 J	--	2.2	--
4-NITROPHENOL	NA	--	--	--	--	12
ACENAPHTHENE	37	--	--	--	56	--
ACENAPHTHYLENE	37	--	--	--	0.56	--
ACETOPHENONE	NA	1.3	5	1.6	--	4.5
ANTHRACENE	180	--	--	--	3.2	--
BIS(2-ETHYLHEXYL)PHTHALATE	6	--	--	0.91 J	0.9 J	--
CAPROLACTAM	NA	--	--	--	1.2 J	--
CARBAZOLE	3	--	--	--	22	--
DIBENZOFURAN	4	--	--	--	22	--
DIMETHYL PHTHALATE	NA	--	--	--	--	1.1
FLUORANTHENE	150	--	--	--	3.5	--
FLUORENE	24	--	--	--	22	--
NAPHTHALENE	0.7	0.36	7.9	--	460	4.6
N-NITROSODIPHENYLAMINE	14	0.32 J	--	--	--	--
PHENANTHRENE	180	--	--	--	24	--
PHENOL	1100	--	--	--	--	--
PYRENE	18	--	--	--	1.7	--
METALS (µg/L)						
ANTIMONY	6	--	0.24 J	NA	NA	0.27 J
ARSENIC	10	--	9.3 L	NA	NA	1.7 J
BARIUM	2000	110	280	NA	NA	66
BERYLLIUM	4	0.26 J	--	NA	NA	--
CADMIUM	5	--	--	NA	NA	2800
CHROMIUM	100	--	--	NA	NA	1600
COBALT	NA	35	2.5	NA	NA	45

TABLE 4-5

ANALYTES DETECTED IN GROUNDWATER SAMPLES, OCTOBER-NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	MDE Groundwater Standards[1,2]	MW42I MW42I-101712 10/17/2012	MW42S MW42S-101712 10/17/2012	MW43S MW43-110712 11/7/2012	MW44S MW44-110612 11/6/2012	MW45S MW45S-101812 10/18/2012
COPPER	1300	--	--	NA	NA	3.1
LEAD	15	0.18 J	--	NA	NA	--
MERCURY	2	--	--	NA	NA	--
MOLYBDENUM	NA	--	8.6 J	NA	NA	8.8 J
NICKEL	73	22	2.2 K	NA	NA	220
SELENIUM	50	--	1.1 J	NA	NA	2.3 J
VANADIUM	4	--	--	NA	NA	--
ZINC	5000	--	--	NA	NA	590
DISSOLVED METALS (µg/L)						
ANTIMONY	6	--	0.26 J	--	--	0.24 J
ARSENIC	10	--	9 L	1.8 J	2.5 J	1.4 J
BARIUM	2000	100	290	120	160	65
BERYLLIUM	4	0.25 J	--	--	--	0.2 J
CADMIUM	5	--	--	--	0.52 J	2800
CHROMIUM	100	--	--	0.87 J	--	1200
COBALT	NA	34	2.4	1.8	0.37 J	45
COPPER	1300	--	--	--	11	--
LEAD	15	--	--	--	3.1	--
MERCURY	2	--	--	--	--	--
MOLYBDENUM	NA	--	8.5 J	7.9 J	2.5 J	8.3 J
NICKEL	73	22	1.9 J	3.7	1.9 J	220
SELENIUM	50	--	0.97 J	--	--	1.9 J
VANADIUM	4	--	--	--	8 J	--
ZINC	5000	--	--	--	35	590
MISCELLANEOUS PARAMETERS						
HEXAVALENT CHROMIUM (µg/L)	100	--	--	NA	NA	0.81 L
HARDNESS, as calcium carbonate (mg/L)	NA	NA	NA	300	NA	NA
PETROLEUM HYDROCARBONS (µg/L)						
TPH-GRO (C06-C10)	47	150	8300	NA	NA	44000 J
TPH-DRO (C10-C32)	47	--	1200	NA	NA	--

TABLE 4-5

ANALYTES DETECTED IN GROUNDWATER SAMPLES, OCTOBER-NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Shading Indicates concentration exceeds screening level
1 - MDE groundwater standards, (MDE, 2008).
2 - State of California drinking water action level of 3 µg/L is used for 1,4-dioxane.
-- not detected.
J - Positive result is considered estimated as a result of technical noncompliance.
K - Positive result is considered to be biased high as a result of technical noncompliance. Result may be lower.
L - Positive result is considered to be biased low as a result of technical noncompliance. Result may be higher.
MDE - Maryland Department of the Environment
µg/L - micrograms per liter (i.e., parts per billion).
mg/L - milligrams per liter (i.e., parts per million).
NA - Not available (MDE standards column) or not analyzed.
NJ - The analyte has been tentatively identified. This qualifier indicates presumptive evidence of a compound. Special methods may be required to confirm its presence or absence.
TPH-DRO - total petroleum hydrocarbons diesel range organics
TPH-GRO - total petroleum hydrocarbons gasoline range organics

TABLE 4-6

ANALYTES DETECTED IN POND WATER SAMPLES, OCTOBER-NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

SAMPLE ID	USEPA Region 3	EP1-SW10-1	EP1-SW11-1	EP1-SW12-1	EP1-SW13-1	EP1-SW7-1	EP1-SW9-1	EP2-SW3-1	EP2-SW5-1
LOCATION	Freshwater	EP1-SW10	EP1-SW11	EP1-SW12	EP1-SW13	EP1-SW7	EP1-SW9	EP2-SW3	EP2-SW5
SAMPLE DATE	Screening Levels[1]	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	11/6/2012	11/6/2012
VOLATILE ORGANIC COMPOUNDS (µg/L)									
ACETONE	1500	3 J	3.6 J	2.4 J	3.6 J	3.7 J	3.8 J	2.1 B	2.3 B
CARBON DISULFIDE	0.92	0.36 J	--	--	--	0.19 J	0.15 J	--	--
TOLUENE	2	0.19 J	0.2 J	0.28 J	0.13 J	0.2 J	0.26 J	--	--
TENTATIVELY IDENTIFIED VOLATILE ORGANIC COMPOUNDS (µg/L)									
HEXANAL	NA	NA	NA	NA	NA	NA	NA	NA	1.4 NJ
SEMIVOLATILE ORGANIC COMPOUNDS (µg/L)									
BIS(2-ETHYLHEXYL)PHTHALATE	16	--	--	--	--	--	--	1.3 J	--
PHENANTHRENE	0.4	--	--	--	--	--	--	0.17 J	--
METALS (µg/L)									
ANTIMONY	30	0.23 B	0.29 B	0.25 B	0.25 B	0.37 B	0.27 B	2.2 B	2.6 B
ARSENIC	5	1.5 J	1.7 J	1.6 J	1.5 J	1.9 J	1.6 J	1.8 J	2.2 J
BARIUM	4	7.3 B	6.6 B	7 B	6.3 B	8.7 L	10 B	38	41
CADMIUM	0.25	0.27 J	0.39 J	0.23 J	0.5 J	1.9	2.2	0.37 J	0.4 J
CHROMIUM	11	4.2	5.2	3.7 L	7.2	18	22	2.3 L	1.5 J
COBALT	23	0.11 B	0.14 B	0.11 B	0.1 B	0.32 J	0.16 B	1.1	1.2
COPPER	9	1.3 B	0.74 B	0.5 B	1.1 B	2.9 B	2.9 B	5.3	4.3
LEAD	2.5	0.52 B	0.57 B	0.42 B	0.61 B	1.6	1.4	5	4.9
MERCURY	0.026	0.23 B	0.22 B	--	0.13 J	--	0.14 B	--	--
MOLYBDENUM	73	0.14 J	0.18 J	0.14 J	--	0.36 J	0.16 J	1.4 B	2 B
NICKEL	52	1 B	1.1 B	1 B	1.1 B	1.7 J	1.5 J	6.4	6.5
VANADIUM	20	--	--	--	--	--	--	5.2 J	5.4 J
ZINC	120	6.4 B	3.4 B	--	5.7 B	22 B	14 B	26	25
DISSOLVED METALS (µg/L)									
ANTIMONY	30	0.28 B	0.24 B	0.24 B	0.23 B	1 J	0.26 B	2.4 B	2.3 B
ARSENIC	5	1.5 J	1.5 J	1.4 J	1.6 J	1.6 J	1.5 J	1.8 J	1.8 J
BARIUM	4	5.5 B	4.9 B	5.7 B	4.5 B	5 L	5.4 B	35	37
CADMIUM	0.25	--	--	--	--	--	--	0.15 J	0.18 J
CHROMIUM	74	1.1 J	1.6 J	1.3 J	1.2 J	1.2 J	1.2 J	--	0.77 J
COBALT	23	0.11 B	0.095 B	0.076 B	0.082 B	0.21 J	0.082 B	0.69 J	0.86 J
COPPER	9	0.46 B	0.42 B	0.35 B	0.4 B	0.52 B	0.59 B	1.7 B	2.8
HEXAVALENT CHROMIUM	11	--	--	0.025 J	--	0.027 J	--	0.036 J	0.031 J
LEAD	2.5	--	--	--	--	0.21 J	--	0.33 J	2
MERCURY	0.026	0.23 B	0.24 B	--	--	0.12 J	--	--	--
MOLYBDENUM	73	0.24 J	0.19 J	0.11 J	0.17 J	0.52 J	0.13 J	2 B	1.5 B
NICKEL	52	1 B	1.2 B	1.5 J	1 B	1 J	1 B	5.4	5.9
VANADIUM	20	--	--	--	--	--	--	1.3 J	3.3 J
ZINC	120	2.4 B	3.5 B	--	--	3.6 B	3.7 B	6.7 B	14 B
PETROLEUM HYDROCARBONS (µg/L))									
DIESEL-RANGE ORGANICS (C10-C32)	NA	390 J	440 J	410 J	550	730	390 J	--	420 J
MISCELLANEOUS PARAMETERS									
HARDNESS, as calcium carbonate (mg/L)	NA	210	220	200	190	190	210	270	270

Shaded cells indicate values that exceed the screening criterion.

1 - USEPA Region 3 BTAG Freshwater Screening Benchmark July 2006
(http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fw/R3_BTAG_FW_Benchmarks_07-06.pdf).

B - analyte detcted in laboratory blank

BTAG - Biological Technical Advisory Group

J - estimated result

L - result biased low

µg/L - micrograms per liter

mg/L - milligrams per liter

NJ - analyte is presumed present; result is estimate (used for tentatively identified compounds [TICs])

USEPA - United States Environmental Protercion Agency

NA - not available or not analyzed

-- not detected

TABLE 4-7

ANALTES DETECTED IN POND 1 SEDIMENT SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Human Health Screening Levels[1]	Ecological Screening Levels[8]	EP1-SD7 EP1-SD7-0-1 10/10/2012	EP1-SD7 EP1-SD7-1-2 10/10/2012	EP1-SD8 EP1-SD8-0-1 10/10/2012	EP1-SD8 EP1-SD8-1-2 10/10/2012	EP1-SD9 EP1-SD9-0-1 10/10/2012	EP1-SD9 EP1-SD9-1-2 10/10/2012
VOLATILE ORGANIC COMPOUNDS (µg/kg)								
1,2,3-TRIMETHYLBENZENE	53,000 N	NA	860 J	73 J	91 J	8700 J	880 J	5200 J
1,2,4-TRICHLOROBENZENE	62,000 N	2100	--	67 J	--	--	--	--
1,2,4-TRIMETHYLBENZENE	62,000 N	NA	490 J	--	--	21000 J	2800 J	12000 J
1,2-DICHLOROBENZENE	1,900,000 N	16.5	--	170 J	180 J	520 J	--	--
1,3-DICHLOROBENZENE	24,000 C[4]	4430	77 J	83 B	--	--	13 J	--
1,4-DICHLOROBENZENE	24,000 C	599	65 J	95 J	--	--	--	--
2-BUTANONE	28,000,000 N	NA	270 J	--	130 J	940 J	--	--
4-ISOPROPYLTOLUENE	NA	NA	440 J	--	--	940 J	180 J	610 J
ACETONE	61,000,000 N	NA	1600 J	--	750 J	--	210 J	--
BENZENE	11,000 C	57 [9]	19 J	--	--	--	58 J	--
CARBON DISULFIDE	820,000 N	0.851	140 J	--	--	--	20 J	--
CHLOROBENZENE	290,000 N	8.42	1900 J	1700 J	1200 J	8800 J	1500 J	5100 J
CIS-1,2-DICHLOROETHENE	160,000 N	1050 [10]	--	--	--	--	23 J	19000 J
ETHYLBENZENE	54,000 C	1100	57 J	32 J	--	7900 J	100 J	47000 J
ISOPROPYLBENZENE	2,100,000 N	86	1600 J	1100 J	1000 J	1900 J	660 J	1400 J
M+P-XYLENES	590,000 N[5]	25.2 [11]	630 J	130 B	--	95000 J	7600 J	100000 J
METHYLENE CHLORIDE	360,000 N[6]	NA	320 B	--	330 B	--	--	14000 J
NAPHTHALENE	36,000 C	176	670 J	180 J	65 B	9500 J	360 J	6500 J
N-BUTYLBENZENE	3,900,000 N	NA	2400 J	660 J	1100 J	1400 J	500 J	--
N-PROPYLBENZENE	3,400,000 N	NA	3500 J	1900 J	2000 J	2900 J	810 J	1700 J
O-XYLENE	690,000 N	25.2 [11]	100 J	47 J	--	32000 J	2800 J	43000 J
SEC-BUTYLBENZENE	NA	NA	1700 J	600 J	780 J	670 J	390 J	--
STYRENE	6,300,000 N	559	--	--	--	--	--	--
TERT-BUTYLBENZENE	NA	NA	350 J	170 J	140 J	190 J	82 J	--
TOLUENE	5,000,000 N	1090 [12]	69 J	--	--	12000 J	520 J	380000 J
TOTAL XYLENES	630,000 N	25.2 [11]	730 J	180 B	--	130000 J	10000 J	140000 J
TRICHLOROETHENE	4,400 N[6]	96.9	--	--	--	--	84 J	55000 J

TABLE 4-7

ANALTES DETECTED IN POND 1 SEDIMENT SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Human Health Screening Levels[1]	Ecological Screening Levels[8]	EP1-SD7 EP1-SD7-0-1 10/10/2012	EP1-SD7 EP1-SD7-1-2 10/10/2012	EP1-SD8 EP1-SD8-0-1 10/10/2012	EP1-SD8 EP1-SD8-1-2 10/10/2012	EP1-SD9 EP1-SD9-0-1 10/10/2012	EP1-SD9 EP1-SD9-1-2 10/10/2012
TENTATIVELY IDENTIFIED COMPOUNDS - VOLATILES (µg/kg)								
CYCLOPENTANE, 1,2,3-TRIMETHYL-, (1.ALPHA	NA	NA	NA	NA	NA	NA	NA	NA
POLYCHLORINATED BIPHENYLS (µg/kg)								
AROCLOR-1254	1,100 N[6]	59.8	**1300 J**	**4800 J**	--	**2300 J**	--	370 J
AROCLOR-1260	2,200 C	59.8	--	--	260 J	--	--	--
TOTAL AROCLOR	2,200 C[7]	59.8	**1300**	**4800**	260	**2300**	--	370
METALS (mg/kg)								
ARSENIC	3.9 C	9.8	**24 J**	**34 J**	24 B	37 B	**22 J**	**18 J**
BARIUM	15,000 N	48 [13]	97 J	230 J	99 J	490 J	93 J	200 J
CADMIUM	70 N	0.99	**620 J**	**2700 J**	**860 J**	**6200 J**	**800 J**	**3500 J**
CHROMIUM	2.9 C[2]	43.4	**5100 J**	**41000 J**	**14000 J**	**71000 J**	**7500 J**	**26000 J**
LEAD	400	35.8	190 J	**1100 J**	200 J	**2100 J**	200 J	**880 J**
MERCURY	23 N[3]	0.18	0.57 B	3.2 J	0.57 B	18 J	0.43 B	3.1 J
SELENIUM	390 N	2	3 B	--	15 B	24 B	--	--
SILVER	390 N	1	1.8 J	14 J	--	6.2 J	0.87 J	5.8 J
PETROLEUM HYDROCARBONS (µg/kg)								
TPH-GRO (C06-C10)	230000 [14]	NA	29000 J	150000 J	53000 J	760000 J	75000 J	2000000 J
PETROLEUM HYDROCARBONS (mg/kg)								
TPH-DRO (C10-C22)	230 [14]	NA	9600 J	110000 J	9700 J	140000 J	8000 J	48000 J

TABLE 4-7

ANALTES DETECTED IN POND 1 SEDIMENT SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Human Health Screening Levels[1]	Ecological Screening Levels[8]	EP1-SD10 EP1-SD10-0-1 10/10/2012	EP1-SD10 EP1-SD10-1-2 10/10/2012	EP1-SD11 EP1-SD11-0-1 10/10/2012	EP1-SD11 EP1-SD11-1-2 10/10/2012	EP1-SD12 EP1-SD12-0-1 10/10/2012	EP1-SD12 EP1-SD12-1-2 10/10/2012
VOLATILE ORGANIC COMPOUNDS (µg/kg)								
1,2,3-TRIMETHYLBENZENE	53,000 N	NA	910 J	11000 J	930 J	7900 J	1100 J	4.6 J
1,2,4-TRICHLOROBENZENE	62,000 N	2100	--	190 J	--	--	--	--
1,2,4-TRIMETHYLBENZENE	62,000 N	NA	7800 J	31000 J	2600 J	18000 J	2200 J	--
1,2-DICHLOROBENZENE	1,900,000 N	16.5	--	330 J	99 J	370 J	110 J	2.1 J
1,3-DICHLOROBENZENE	24,000 C[4]	4430	--	45 J	--	--	--	--
1,4-DICHLOROBENZENE	24,000 C	599	--	--	--	--	--	--
2-BUTANONE	28,000,000 N	NA	260 J	--	--	--	--	14 J
4-ISOPROPYLTOLUENE	NA	NA	1500 J	1400 J	160 J	850 J	120 J	--
ACETONE	61,000,000 N	NA	1100 J	--	--	--	--	74 J
BENZENE	11,000 C	57 [9]	25 J	--	--	--	130 J	--
CARBON DISULFIDE	820,000 N	0.851	29 J	--	--	--	--	4.4 J
CHLOROBENZENE	290,000 N	8.42	2200 J	4300 J	1600 J	5600 J	1700 J	87 J
CIS-1,2-DICHLOROETHENE	160,000 N	1050 [10]	--	--	--	1700 J	--	--
ETHYLBENZENE	54,000 C	1100	67 J	24000 J	89 J	40000 J	200 J	--
ISOPROPYLBENZENE	2,100,000 N	86	1800 J	2300 J	400 J	1300 J	330 J	8.4 J
M+P-XYLENES	590,000 N[5]	25.2 [11]	5600 J	130000 J	3200 J	97000 J	7500 J	--
METHYLENE CHLORIDE	360,000 N[6]	NA	250 B	--	--	7500 J	--	--
NAPHTHALENE	36,000 C	176	160 B	9100 J	330 J	9500 J	840 J	--
N-BUTYLBENZENE	3,900,000 N	NA	3600 J	2300 J	320 J	1200 J	340 J	--
N-PROPYLBENZENE	3,400,000 N	NA	3200 J	4000 J	590 J	2000 J	440 J	10 J
O-XYLENE	690,000 N	25.2 [11]	200 J	19000 J	1200 J	44000 J	4400 J	--
SEC-BUTYLBENZENE	NA	NA	2400 J	980 J	150 J	560 J	170 J	3.1 J
STYRENE	6,300,000 N	559	--	--	52 J	--	--	--
TERT-BUTYLBENZENE	NA	NA	450 J	260 J	44 J	--	--	--
TOLUENE	5,000,000 N	1090 [12]	--	690 J	210 J	200000 J	1900 J	2.9 J
TOTAL XYLENES	630,000 N	25.2 [11]	5800 J	150000 J	4400 J	140000 J	12000 J	--
TRICHLOROETHENE	4,400 N[6]	96.9	--	--	--	--	--	--

TABLE 4-7

ANALTES DETECTED IN POND 1 SEDIMENT SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Human Health Screening Levels[1]	Ecological Screening Levels[8]	EP1-SD10 EP1-SD10-0-1 10/10/2012	EP1-SD10 EP1-SD10-1-2 10/10/2012	EP1-SD11 EP1-SD11-0-1 10/10/2012	EP1-SD11 EP1-SD11-1-2 10/10/2012	EP1-SD12 EP1-SD12-0-1 10/10/2012	EP1-SD12 EP1-SD12-1-2 10/10/2012
TENTATIVELY IDENTIFIED COMPOUNDS - VOLATILES (µg/kg)								
CYCLOPENTANE, 1,2,3-TRIMETHYL-, (1.ALPHA	NA	NA	NA	NA	NA	NA	NA	NA
POLYCHLORINATED BIPHENYLS (µg/kg)								
AROCLOR-1254	1,100 N[6]	59.8	--	--	--	--	--	240 J
AROCLOR-1260	2,200 C	59.8	990 J	1100 J	--	**2500 J**	--	--
TOTAL AROCLOR	2,200 C[7]	59.8	990	1100	--	**2500**	--	240
METALS (mg/kg)								
ARSENIC	3.9 C	9.8	**31 J**	**36 J**	**24 J**	**39 J**	**13 J**	**24 J**
BARIUM	15,000 N	48 [13]	750 J	410 J	130 J	420 J	60 J	110 J
CADMIUM	70 N	0.99	**1500 J**	**2400 J**	**1700 J**	**970 J**	**150 J**	**1200 J**
CHROMIUM	2.9 C[2]	43.4	**21000 J**	**46000 J**	**24000 J**	**64000 J**	**1300 J**	**18000 J**
LEAD	400	35.8	**18000 J**	**1600 J**	240 J	**1600 J**	180 J	270 J
MERCURY	23 N[3]	0.18	0.64 B	4.8 J	0.59 B	6.1 J	0.77 B	0.54 B
SELENIUM	390 N	2	--	--	--	--	--	--
SILVER	390 N	1	3.6 J	5 J	--	5 J	0.99 J	--
PETROLEUM HYDROCARBONS (µg/kg)								
TPH-GRO (C06-C10)	230000 [14]	NA	46000 J	1300000 J	54000 J	2700000 J	84000 J	2600 J
PETROLEUM HYDROCARBONS (mg/kg)								
TPH-DRO (C10-C22)	230 [14]	NA	36000 J	65000 J	14000 J	74000 J	960 J	11000 J

TABLE 4-7

ANALTES DETECTED IN POND 1 SEDIMENT SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Human Health Screening Levels[1]	Ecological Screening Levels[8]	EP1-SD13 EP1-SD13-0-1 10/10/2012	EP1-SD13 EP1-SD13-1-2 10/10/2012	EP1-SD14 EP1-SD14-0-1 10/10/2012	EP1-SD14 EP1-SD14-1-2 10/10/2012
VOLATILE ORGANIC COMPOUNDS (µg/kg)						
1,2,3-TRIMETHYLBENZENE	53,000 N	NA	610 J	10000 J	--	3400 J
1,2,4-TRICHLOROBENZENE	62,000 N	2100	--	--	--	--
1,2,4-TRIMETHYLBENZENE	62,000 N	NA	3700 J	26000 J	--	8500 J
1,2-DICHLOROBENZENE	1,900,000 N	16.5	--	320 J	7.1 J	190 J
1,3-DICHLOROBENZENE	24,000 C[4]	4430	36 J	--	--	--
1,4-DICHLOROBENZENE	24,000 C	599	--	--	--	--
2-BUTANONE	28,000,000 N	NA	140 J	--	--	--
4-ISOPROPYLTOLUENE	NA	NA	360 J	940 J	--	360 J
ACETONE	61,000,000 N	NA	640 J	--	--	--
BENZENE	11,000 C	57 [9]	16 J	230 J	--	--
CARBON DISULFIDE	820,000 N	0.851	--	--	3.7 J	--
CHLOROBENZENE	290,000 N	8.42	6900 J	11000 J	150 J	2400 J
CIS-1,2-DICHLOROETHENE	160,000 N	1050 [10]	--	--	--	--
ETHYLBENZENE	54,000 C	1100	59 J	2500 J	--	120 J
ISOPROPYLBENZENE	2,100,000 N	86	1800 J	2000 J	37 J	890 J
M+P-XYLENES	590,000 N[5]	25.2 [11]	4000 J	150000 J	--	37000 J
METHYLENE CHLORIDE	360,000 N[6]	NA	120 B	2500 J	--	--
NAPHTHALENE	36,000 C	176	100 B	8300 J	--	1300 J
N-BUTYLBENZENE	3,900,000 N	NA	1400 J	1500 J	11 J	540 J
N-PROPYLBENZENE	3,400,000 N	NA	3500 J	3000 J	42 J	1200 J
O-XYLENE	690,000 N	25.2 [11]	220 J	58000 J	--	12000 J
SEC-BUTYLBENZENE	NA	NA	980 J	700 J	12 J	300 J
STYRENE	6,300,000 N	559	--	--	--	--
TERT-BUTYLBENZENE	NA	NA	210 J	190 J	3.6 J	76 J
TOLUENE	5,000,000 N	1090 [12]	32 J	2500 J	3.8 J	830 J
TOTAL XYLENES	630,000 N	25.2 [11]	4200 J	210000 J	--	49000 J
TRICHLOROETHENE	4,400 N[6]	96.9	--	190 B	--	--

TABLE 4-7

ANALTES DETECTED IN POND 1 SEDIMENT SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

LOCATION SAMPLE ID SAMPLE DATE	Human Health Screening Levels[1]	Ecological Screening Levels[8]	EP1-SD13 EP1-SD13-0-1 10/10/2012	EP1-SD13 EP1-SD13-1-2 10/10/2012	EP1-SD14 EP1-SD14-0-1 10/10/2012	EP1-SD14 EP1-SD14-1-2 10/10/2012
TENTATIVELY IDENTIFIED COMPOUNDS - VOLATILES (µg/kg)						
CYCLOPENTANE, 1,2,3-TRIMETHYL-, (1.ALPHA	NA	NA	2400 NJ	NA	NA	NA
POLYCHLORINATED BIPHENYLS (µg/kg)						
AROCLOR-1254	1,100 N[6]	59.8	--	**3500 J**	--	370 J
AROCLOR-1260	2,200 C	59.8	180 J	--	--	--
TOTAL AROCLOR	2,200 C[7]	59.8	180	**3500**	0 U	370
METALS (mg/kg)						
ARSENIC	3.9 C	9.8	**22 J**	**40 J**	**17 J**	**24 J**
BARIUM	15,000 N	48 [13]	85 J	470 J	86 J	190 J
CADMIUM	70 N	0.99	**620 J**	**6900 J**	**610 J**	**1700 J**
CHROMIUM	2.9 C[2]	43.4	**5800 J**	**69000 J**	**4700 J**	**30000 J**
LEAD	400	35.8	170 J	**1600 J**	140 J	**570 J**
MERCURY	23 N[3]	0.18	0.47 B	3.4 J	0.54 B	1 J
SELENIUM	390 N	2	--	--	--	--
SILVER	390 N	1	0.93 J	--	--	--
PETROLEUM HYDROCARBONS (µg/kg)						
TPH-GRO (C06-C10)	230000 [14]	NA	37000 J	1100000 J	61000 J	420000 J
PETROLEUM HYDROCARBONS (mg/kg)						
TPH-DRO (C10-C22)	230 [14]	NA	6800 J	91000 J	2200 J	20000 J

TABLE 4-7

ANALTES DETECTED IN POND 1 SEDIMENT SAMPLES - OCTOBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Cell shaded gray indicates value exceeds one screening level only (ecological level in most cases).
Cell shaded black indicates value exceeds both screening levels.

1 The USEPA Regional Screening Level for residential soil is presented. Value represents the risk-based soil screening level multiplied by a factor of 10 for anticipated reduced exposure to sediment. Before the factor is applied, the risk-based soil screening level for non-carcinogens (N) is divided by 10 to correspond to a target hazard quotient of 0.1, and screening levels for carcinogens (C) represent an incremental cancer risk of 1.0E-6 (USEPA, November 2012).
2 The value is for hexavalent chromium.
3 The value is for mercuric chloride (and other mercury salts).
4 The value for 1,4-dichlorobenzene is used as a surrogate for 1,3-dichlorobenzene.
5 The value is for m-xylene.
6 One-tenth the noncarcinogenic screening level is less than the carcinogenic screening level; therefore, the noncarcinogenic screening level is presented.
7 The value is for polychlorinated biphenyls (high risk).
8 Unless noted otherwise, ecological screening levels are Region 3 BTAG (FW) - USEPA Region 3 BTAG Freshwater Sediment Screening Benchmark (August 2006) (http://www.epa.gov/reg3hscd/risk/eco/btag/sbv/fwsed/R3_BTAG_FW_Sediment_Benchmarks_07-06.pdf).
9 Value from Ecotox - USEPA. ECO Update, Ecotox Thresholds. Office of Solid Waste and Emergency Response. Intermittent Bulletin, Volume 3, Number 2. EPA540/F-95/038. (January, 1996).
10 Value is based on trans-1,2-dichloroethene
11 Value is based on m-xylene
12 Value from Region 3 BTAG (SW) - USEPA Region 3 BTAG Marine Sediment Screening Benchmark (August 2006) (http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/marsed/R3_BTAG_Marine_Sediment_Benchmarks_7-06.pdf).
13 Value from NOAA - Buchman, M. F., 2008. NOAA Screening Quick Reference Tables, NOAA HAZMAT Report 99-1, Seattle, WA, Coastal Protection and Restoration Division, National Oceanic and Atmospheric Administration. http://response.restoration.noaa.gov/cpr/sediment/squirt/squirt.html
14 Maryland Department of the Environment soil cleanup standard for residential soil (MDE, 2008).

-- not detected
B - analyte detected in blank
BTAG - Biological Technical Assistance Group
C - carcinogenic
CAS - Chemical Abstracts Service
J - estimated concentration
µg/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
N - noncarcinogenic
NA - not available/not applicable
NJ - analyte is presumed present; result is estimated
NOAA - National Oceanic and Atmospheric Administration
TPH-DRO - total petroleum hydrocarbons diesel range organics
TPH-GRO - total petroleum hydrocarbons gasoline range organics
USEPA - United States Environmental Protection Agency

TABLE 4-8

ANALYTES DETECTED IN POND 2 SEDIMENT SAMPLES - NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND
PAGE 1 OF 2

LOCATION SAMPLE ID SAMPLE DATE	Human Health Screening Levels[1]	Ecological Screening Levels[5]	EP2-SD3 EP2-SD3-0-1 11/6/2012	EP2-SD3 EP2-SD3-1-2 11/6/2012	EP2-SD4 EP2-SD4-0-1 11/6/2012	EP2-SD4 EP2-SD4-1-2 11/6/2012	EP2-SD5 EP2-SD5-0-1 11/6/2012	EP2-SD5 EP2-SD5-1-2 11/6/2012	EP2-SD6 EP2-SD6-0-1 11/6/2012	EP2-SD6 EP2-SD6-1-2 11/6/2012
VOLATILE ORGANIC COMPOUNDS (µg/kg)										
2-BUTANONE	28,000,000 N	NA	--	--	--	82	--	31 J	11 J	17 J
4-ISOPROPYLTOLUENE	NA	NA	5.5 J	--	--	--	--	--	--	--
ACETONE	61,000,000 N	NA	--	200	--	370	--	120 B	33 B	73 B
CARBON DISULFIDE	820,000 N	0.851	--	5.3 J	--	1.5 J	--	2.6 J	--	1.3 J
ETHYLBENZENE	54,000 C	1100	--	--	--	--	--	--	2.1 J	--
ISOPROPYLBENZENE	2,100,000 N	86	--	--	--	--	--	0.68 J	--	--
METHYLENE CHLORIDE	360,000 N[4]	NA	--	--	2.5 B	7.4 B	--	2.2 B	12 J	3.2 B
NAPHTHALENE	36,000 C	176	1 B	0.48 B	1.1 B	0.93 B	1.8 B	0.47 B	1.5 B	0.56 B
TOLUENE	5,000,000 N	1090 [6]	1.4 J	0.64 J	--	--	--	--	--	--
POLYCHLORINATED BIPHENYLS (µg/kg)										
AROCLOR-1260	2200 C	59.8	--	110	--	--	--	--	--	--
METALS (mg/kg)										
ANTIMONY	31 N	2	1.4 J	1.1 J	--	--	--	--	--	--
ARSENIC	3.9 C	9.8	6.4 J	8.1	6.3	7.9	7.2 J	4	5.9 J	6.4
BARIUM	15,000 N	48 [7]	52 J	42 J	67	38 J	72 J	29 J	53 J	30 J
BERYLLIUM	160 N	NA	2.5 J	1.7	1.7	0.82 J	2.4 J	0.57 J	1.7 J	0.97 J
CADMIUM	70 N	0.99	17 J	9.5	7.8	3.8	21 J	4.2	15 J	4.9
CHROMIUM	2.9 C[2]	43.4	**87 J**	**190**	**88**	**91**	**80 J**	36	**61 J**	31
COBALT	23 N	50	38 J	20	23	8.2	42 J	7.1	25 J	28
COPPER	3,100 N	31.6	97 J	83	66	51	130 J	35	85 J	41
LEAD	400	35.8	71 J	82	55	64	85 J	39	55 J	57
MERCURY	23 N[3]	0.18	0.27 J	0.4 K	0.27 J	0.21 J	0.24 J	0.12 J	0.18 J	0.19 J
MOLYBDENUM	390 N	NA	1.2 J	1.9 J	1.4 J	1.8 J	--	1.5 J	--	1.8 J
NICKEL	1,500 N	22.7	73 J	38	51	25	77 J	18	46 J	36
SELENIUM	390 N	2	--	--	--	--	--	--	--	1.8 J
SILVER	390 N	1	0.41 J	0.78 J	0.38 J	0.26 J	0.72 J	--	--	--
VANADIUM	390 N	57 [7]	48 J	49	62	46	60 J	25	47 J	29
ZINC	23,000 N	121	700 J	290	430	190	840 J	130	490 J	210
PETROLEUM HYDROCARBONS (µg/kg)										
TPH-GRO (C06-C10)	230000 [8]	NA	220 B	260	190 B	130 B	--	210 J	--	--
PETROLEUM HYDROCARBONS (mg/kg)										
TPH-DRO (C10-C32)	230 [8]	NA	220 J	270	100	73	110 J	68	330 J	87

TABLE 4-8

ANALTES DETECTED IN POND 2 SEDIMENT SAMPLES - NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND
PAGE 2 OF 2

Cell shaded gray indicates value exceeds one screening level only (ecological level in most cases).

Cell shaded black indicates value exceeds both screening leve

1 The USEPA Regional Screening Level for residential soil is presented. Value represents the risk-based soil screening level multiplied by a factor of 10 for anticipated reduced exposure to sediment. Before the factor is applied, the risk-based soil screening level for non-carcinogens (N) is divided by 10 to correspond to a target hazard quotient of 0.1, and screening levels for carcinogens (C) represent an incremental cancer risk of 1.0E-6 (USEPA, November 2012).

2 The value is for hexavalent chromium.

3 The value is for mercuric chloride (and other mercury salts).

4 One-tenth the noncarcinogenic screening level is less than the carcinogenic screening level; therefore, the noncarcinogenic screening level is presented.

5 Unless noted otherwise, ecological screening levels are Region 3 BTAG (FW) - USEPA Region 3 BTAG Freshwater Sediment Screening Benchmark (August 2006) (http://www.epa.gov/reg3hscd/risk/eco/btag/sbv/fwsed/R3_BTAG_FW_Sediment_Benchmarks_07-06.pdf).

6 Value from Region 3 BTAG (SW) - USEPA Region 3 BTAG Marine Sediment Screening Benchmark (August 2006) (http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/marsed/R3_BTAG_Marine_Sediment_Benchmarks_7-06.pdf).

7 Value from NOAA - Buchman, M. F., 2008. NOAA Screening Quick Reference Tables, NOAA HAZMAT Report 99-1, Seattle, WA, Coastal Protection and Restoration Division, National Oceanic and Atmospheric Administration. http://response.restoration.noaa.gov/cpr/sediment/squirt/squirt.html

8 Maryland Department of the Environment soil cleanup standard for residential soil (MDE, 2008).

-- not detected

B - analyte detected in blank

BTAG - Biological Technical Assistance Group

C - carcinogenic

CAS - Chemical Abstracts Service

J - estimated concentration

µg/kg - micrograms per kilogram

mg/kg - milligrams per kilogram

N - noncarcinogenic

NA - not available/not applicable

NJ - analyte is presumed present; result is estimated

NOAA - National Oceanic and Atmospheric Administration

TPH-DRO - total petroleum hydrocarbons diesel range organics

TPH-GRO - total petroleum hydrocarbons gasoline range organics

USEPA - United States Environmental Protection Agency

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater contours Upper Surficial aquifer October 2012.mxd)
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FIGURE 4-1

GROUNDWATER ELEVATION CONTOURS-UPPER SURFICIAL AQUIFER WELLS, OCTOBER 2012

LEGEND

- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL OR PIEZOMETER
- DEEP CONFINED AQUIFER WELL
- ABANDONED WELL
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 1 FOOT (DASHED WHERE INFERRED)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND
- *1.79* GROUNDWATER ELEVATION FEET, NAVD, 1988
- 6.17 POND WATER ELEVATION FEET, NAVD, 1988

NM= Not measured
NAVD= North American Vertical Datum

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 60 120 240 Feet

N

DATE MODIFIED: 2/1/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater contours Intermediate Surficial aquifer October 2012.mxd)
2/5/2013 -- 12:07:14 PM



FIGURE 4-2

GROUNDWATER ELEVATION CONTOURS-INTERMEDIATE SURFICIAL AQUIFER WELLS, OCTOBER 2012

LEGEND

- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL
- DEEP CONFINED AQUIFER WELL
- ABANDONED WELL
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 0.5 FOOT (DASHED WHERE INFERRED)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND
- *1.24* GROUNDWATER ELEVATION FEET, NAVD, 1988

NM= Not measured
NAVD= North American Vertical Datum

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 60 120 240 Feet

N

DATE MODIFIED: 2/5/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater contours Lower Surficial aquifer October 2012.mxd)
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FIGURE 4-3

GROUNDWATER ELEVATION CONTOURS-LOWER SURFICIAL AQUIFER WELLS, OCTOBER 2012

LEGEND

- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL
- DEEP CONFINED AQUIFER WELL
- ABANDONED WELL
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 0.5 FOOT (DASHED WHERE INFERRED)
- *1.61* GROUNDWATER ELEVATION FEET, NAVD, 1988
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

NAVD= North American Vertical Datum

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 62.5 125 250 Feet

N

DATE MODIFIED: 2/5/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA CPT 2012 exceedances for TCE_Cis12_VC.mxd)
1/16/2013 -- 9:43:41 AM



FIGURE 4-4

PROBE GROUNDWATER RESULTS FOR TRICHLOROETHENE, CIS-1,2-DICHLOROETHENE, AND VINYL CHLORIDE - 2012
DUMP ROAD AREA

LEGEND

- PROBE GROUNDWATER SAMPLE LOCATION: AUG-SEPT 2012
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- TAXIWAY TANGO AREA NORTH
- SOIL OR SEDIMENT TCE SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER TCE SOURCE (from Tetra Tech, 2012a)
- POSSIBLE GROUNDWATER TCE SOURCE BASED ON TCE(EQ) CONCENTRATIONS (from Tetra Tech, 2012a)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Concentrations are in ug/l
- - = not detected
ft= feet
cis= cis-1,2-dichloroethene
CPT= cone penetration test
TCE= trichloroethene
TCE(EQ)= trichloroethene equivalent
TT= Taxiway Tango
VC= vinyl chloride
VOC= volatile organic compound
ug/l = micrograms per liter

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 1/16/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA CPT 2012 exceedances for BTEX_CPT 1 to10.mxd)
2/4/2013 -- 4:58:53 PM



CPT-6				
Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
15	4	--	--	--
20	2	--	--	--
25	--	--	--	--
30	13	--	--	--
35	11	--	--	--
40	2	--	--	--
45	--	--	--	--

CPT-8				
Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
20	150	1	3	--
25	470	2000	140	140
30	280	2800	--	212
35	61	1600	--	--
40	20	140	--	--
45	30	6	--	--
50	8	4	--	--
55	7	5	--	--

CPT-09				
Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
20	67	1500	69	247
25	330	15000	410	870
30	130	440	--	53
35	8	10	--	--
40	--	31	--	16
45	6	57	--	--
50	--	--	--	--
55	15	82	--	--

CPT-03				
Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
20	170	35000	170	920
33	--	820	--	17

CPT-02				
Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
14	--	--	--	--
15	--	--	--	--
23	--	--	--	--
35	--	--	--	--
40	--	--	--	--

CPT-01				
Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
15	--	--	--	--
23	--	--	--	--
30	--	--	--	--
40	--	--	--	--
45	--	--	--	--
50	--	--	--	--
55	--	--	--	--
60	--	--	--	--

CPT-04				
Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
14	--	--	--	--
24	--	--	--	--
45	--	--	--	--
50	--	--	--	--
55	--	--	--	--

CPT-5				
Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
15	--	--	--	--
20	2	--	--	--
25	--	--	--	--
30	--	--	--	--
35	--	--	--	--

CPT-7				
Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
15	57	53	2	15
25	120	--	--	--
30	88	--	--	--
35	2	8	--	5
40	--	10	--	--
45	--	--	--	--
50	--	--	--	--
55	9	--	--	--
60	--	--	--	--

CPT-10				
Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
20	2	--	--	--
25	--	--	--	--
30	2	--	--	--
35	12	--	--	--
40	6	--	--	--
45	--	--	--	--
50	--	--	--	--
55	--	--	--	--

FIGURE 4-5

PROBE GROUNDWATER RESULTS FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENE, CPT-01 TO CPT-10-2012
DUMP ROAD AREA

LEGEND

- PROBE GROUNDWATER SAMPLE LOCATION: AUG-SEPT 2012
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- TAXIWAY TANGO AREA NORTH
- SOIL OR SEDIMENT BTEX SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER BTEX SOURCE (from Tetra Tech, 2012a)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Concentrations are in ug/l
ug/l = micrograms per liter
-- = not detected
CPT= cone penetration test
BTEX = benzene, toluene, ethylbenzene, xylenes
Benz. = benzene
Tol. = toluene
E-benz. = ethylbenzene
Xyl. = xylenes
ft = feet

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 02/04/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA CPT 2012 exceedances for BTEX_CPT 11 to 22.mxd)
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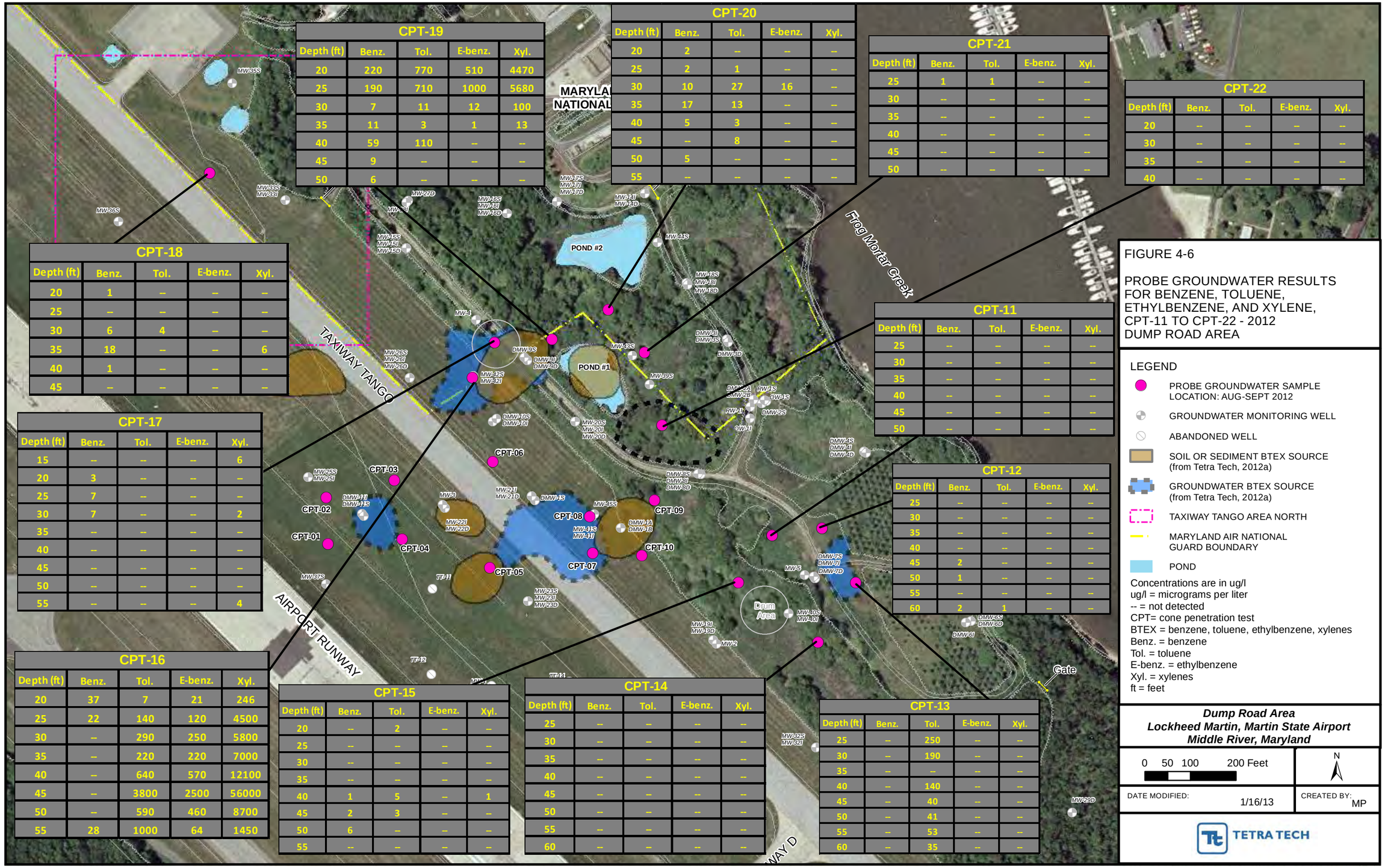


CPT-19

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
20	220	770	510	4470
25	190	710	1000	5680
30	7	11	12	100
35	11	3	1	13
40	59	110	--	--
45	9	--	--	--
50	6	--	--	--

CPT-20

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
20	2	--	--	--
25	2	1	--	--
30	10	27	16	--
35	17	13	--	--
40	5	3	--	--
45	--	8	--	--
50	5	--	--	--
55	--	--	--	--

CPT-21

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
25	1	1	--	--
30	--	--	--	--
35	--	--	--	--
40	--	--	--	--
45	--	--	--	--
50	--	--	--	--

CPT-22

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
20	--	--	--	--
30	--	--	--	--
35	--	--	--	--
40	--	--	--	--

CPT-18

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
20	1	--	--	--
25	--	--	--	--
30	6	4	--	--
35	18	--	--	6
40	1	--	--	--
45	--	--	--	--

CPT-11

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
25	--	--	--	--
30	--	--	--	--
35	--	--	--	--
40	--	--	--	--
45	--	--	--	--
50	--	--	--	--

CPT-17

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
15	--	--	--	6
20	3	--	--	--
25	7	--	--	--
30	7	--	--	2
35	--	--	--	--
40	--	--	--	--
45	--	--	--	--
50	--	--	--	--
55	--	--	--	4

CPT-12

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
25	--	--	--	--
30	--	--	--	--
35	--	--	--	--
40	--	--	--	--
45	2	--	--	--
50	1	--	--	--
55	--	--	--	--
60	2	1	--	--

CPT-16

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
20	37	7	21	246
25	22	140	120	4500
30	--	290	250	5800
35	--	220	220	7000
40	--	640	570	12100
45	--	3800	2500	56000
50	--	590	460	8700
55	28	1000	64	1450

CPT-15

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
20	--	2	--	--
25	--	--	--	--
30	--	--	--	--
35	--	--	--	--
40	1	5	--	1
45	2	3	--	--
50	6	--	--	--
55	--	--	--	--

CPT-14

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
25	--	--	--	--
30	--	--	--	--
35	--	--	--	--
40	--	--	--	--
45	--	--	--	--
50	--	--	--	--
55	--	--	--	--
60	--	--	--	--

CPT-13

Depth (ft)	Benz.	Tol.	E-benz.	Xyl.
25	--	250	--	--
30	--	190	--	--
35	--	--	--	--
40	--	140	--	--
45	--	40	--	--
50	--	41	--	--
55	--	53	--	--
60	--	35	--	--

FIGURE 4-6

PROBE GROUNDWATER RESULTS FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENE, CPT-11 TO CPT-22 - 2012
DUMP ROAD AREA

LEGEND

- PROBE GROUNDWATER SAMPLE LOCATION: AUG-SEPT 2012
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- SOIL OR SEDIMENT BTEX SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER BTEX SOURCE (from Tetra Tech, 2012a)
- TAXIWAY TANGO AREA NORTH
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Concentrations are in ug/l
ug/l = micrograms per liter
-- = not detected
CPT= cone penetration test
BTEX = benzene, toluene, ethylbenzene, xylenes
Benz. = benzene
Tol. = toluene
E-benz. = ethylbenzene
Xyl. = xylenes
ft = feet

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 1/16/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA 2012 MW locations with analytes exceeding soil standards.mxd)
1/22/2013 -- 12:36:59 PM



FIGURE 4-7

ANALYTES EXCEEDING INDUSTRIAL USE SOIL STANDARDS AT SOIL BORING LOCATIONS - 2012
DUMP ROAD AREA

LEGEND

- POND STILLING WELL - NOVEMBER 2012
- GROUNDWATER MONITORING WELL - OCTOBER 2012
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- POND
- TAXIWAY TANGO AREA NORTH
- SOIL OR SEDIMENT TCE SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER TCE SOURCE (from Tetra Tech, 2012a)
- POSSIBLE GROUNDWATER TCE SOURCE BASED ON TCE(EQ) CONCENTRATIONS (from Tetra Tech, 2012a)
- MARYLAND AIR NATIONAL GUARD BOUNDARY

Sample ID
Analyte Concentration Depth(ft)

Concentrations of metals and TPH-DRO are in units of mg/kg
Concentrations of VOCs and TPH-GRO are in units of ug/kg
J = Estimated Value
mg/kg= milligrams per kilogram
ug/kg= micrograms per kilogram
TPH= Total Petroleum Hydrocarbons
DRO= Diesel-Range Organics
GRO= Gasoline-Range Organics
TCE(EQ)= trichloroethene equivalent
VOC= volatile organic compound
MDE = Maryland Department of the Environment
TT= Taxiway Tango
ft= feet

MDE Screening Levels mg/kg:

	Industrial
Arsenic	12
Lead	1000
TPH-DRO	620

MDE Screening Levels ug/kg:

	Industrial
TPH-GRO	620000
TCE	7200

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 1/22/13

CREATED BY: MP

TETRA TECH

FIGURE 4-8
TIME SERIES PLOTS OF WATER LEVELS FOR POND 1 AND WELL MW-43S-OCTOBER-NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

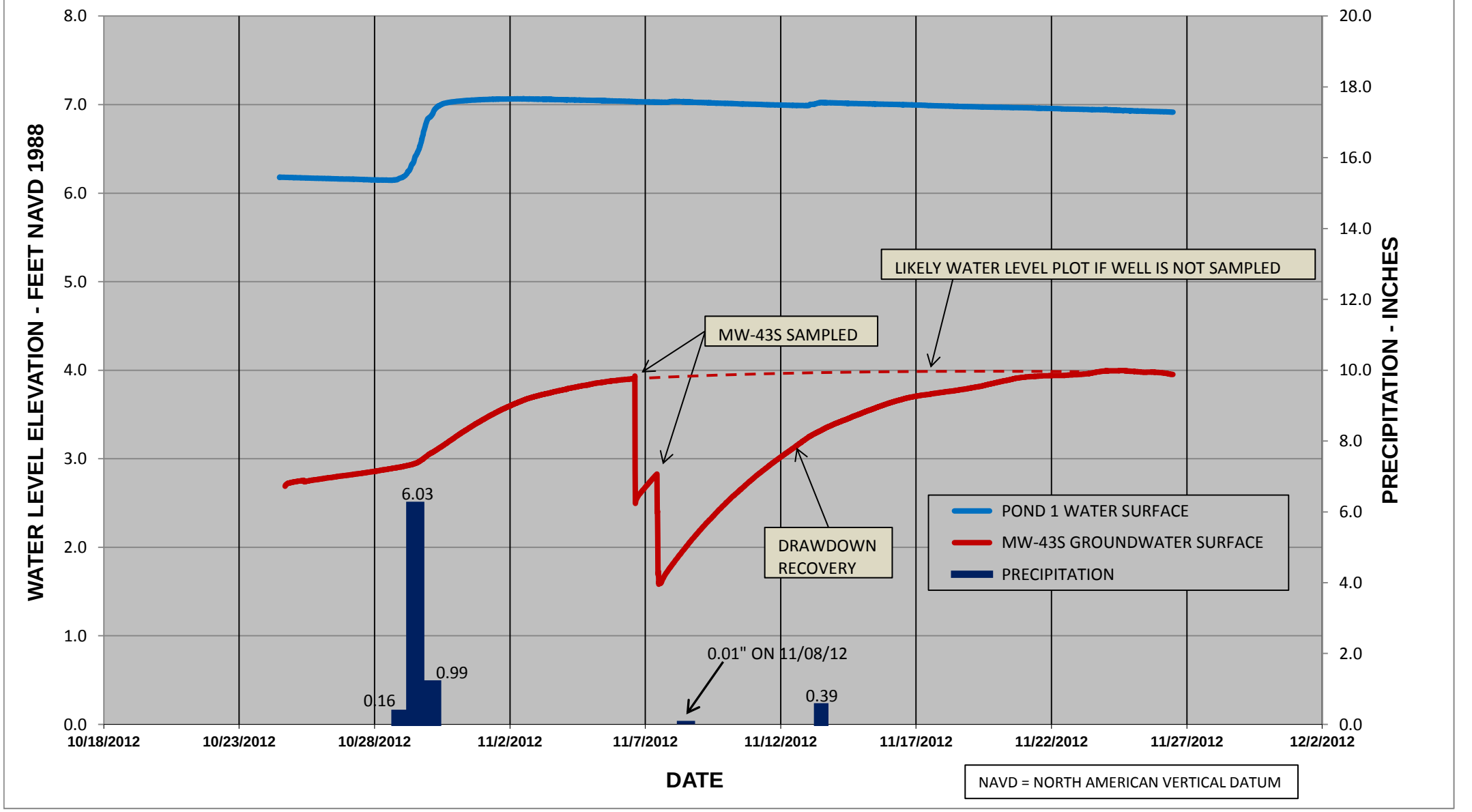
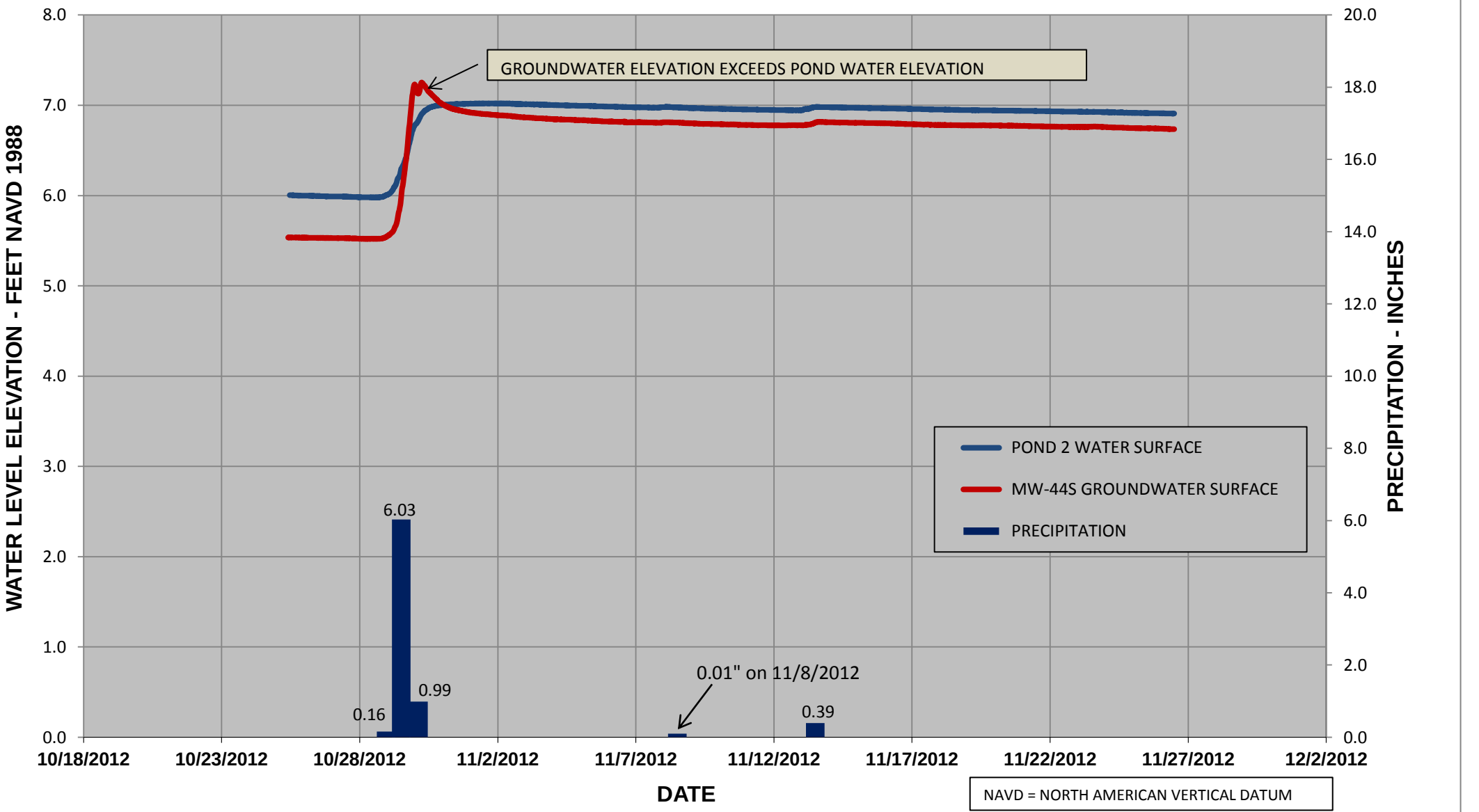


FIGURE 4-9
TIME SERIES PLOTS OF WATER LEVELS FOR POND 2 AND WELL MW-44S-OCTOBER-NOVEMBER 2012
DUMP ROAD AREA
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND



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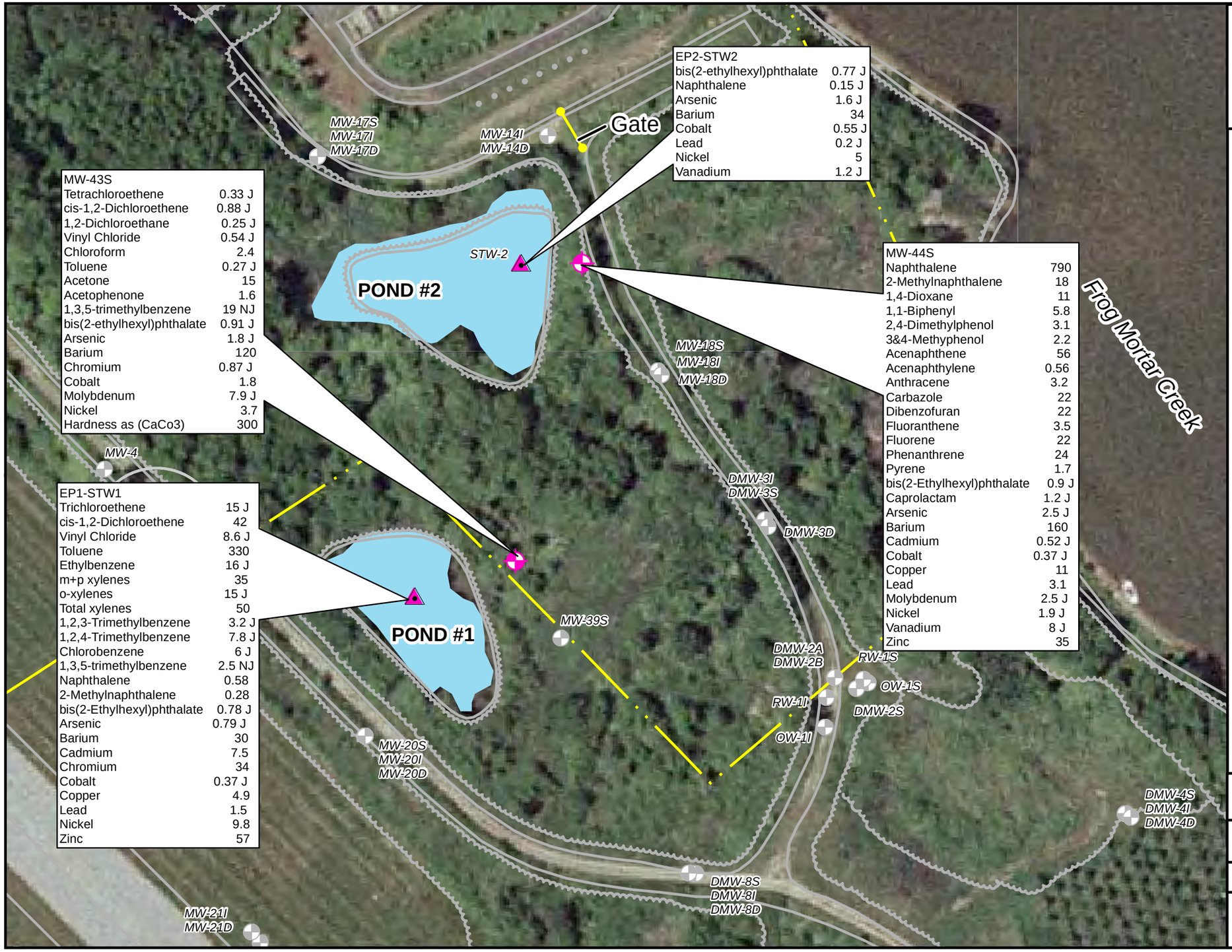

FIGURE 4-10

ANALYTES DETECTED IN POND STILLING WELLS AND WELLS MW-43S AND MW-44S DUMP ROAD AREA

LEGEND

- POND STILLING WELL - NOVEMBER 2012
- GROUNDWATER MONITORING WELL - OCTOBER 2012
- GROUNDWATER MONITORING WELL
- POND
- MARYLAND AIR NATIONAL GUARD BOUNDARY

Sample ID
Analyte Concentration

Concentrations are in units of ug/L
Hardness (CaCO3) is in mg/L
J = Estimated Value

ug/L= micrograms per liter
mg/L= milligrams per liter
J= Estimated value
NJ= Tentatively identified compound

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 20 40 80 Feet

N

DATE MODIFIED: 1/23/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA 2012 MW locations with analytes exceeding groundwater standards.mxd)
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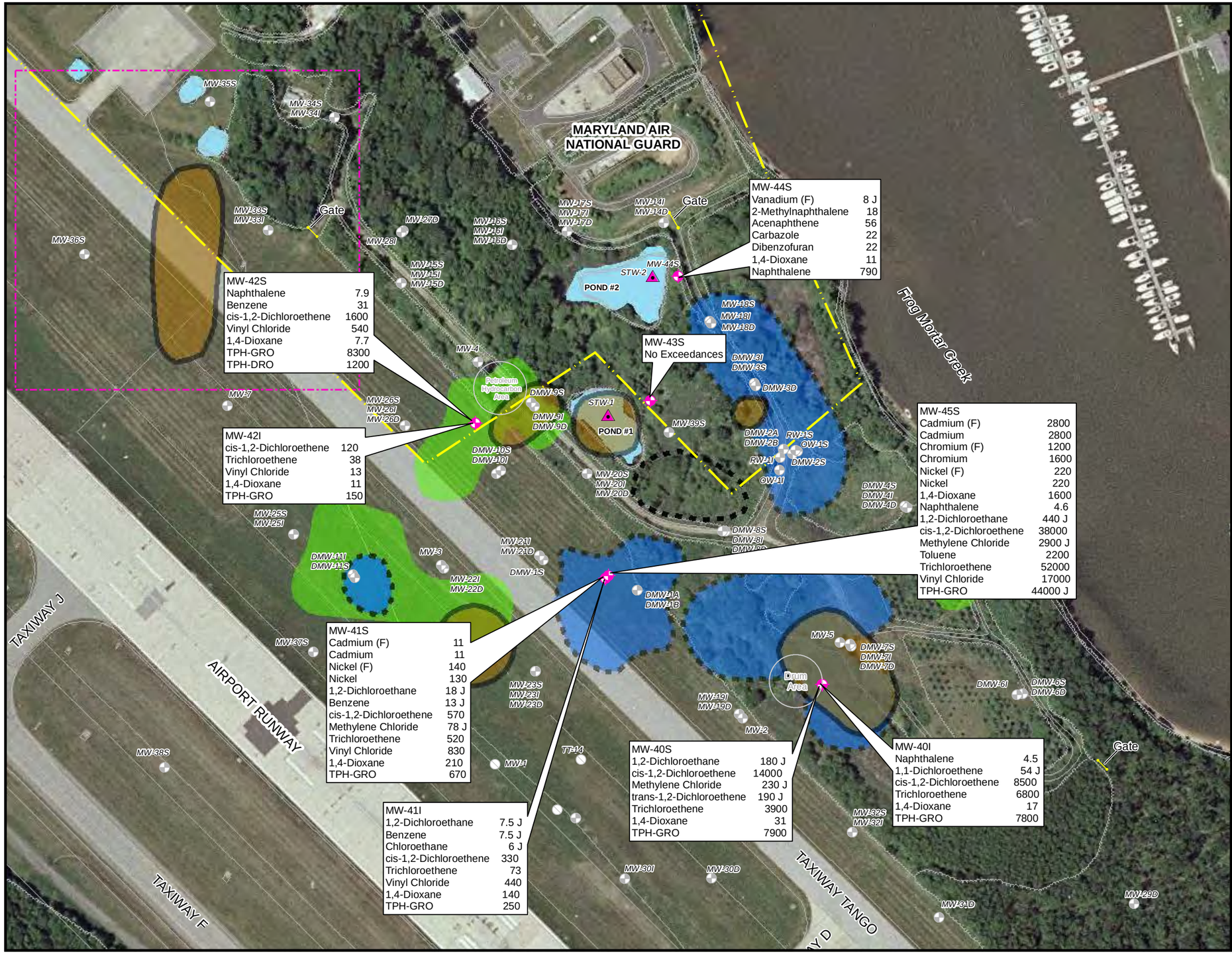

FIGURE 4-11

ANALYTES EXCEEDING GROUNDWATER STANDARDS AT NEW MONITORING WELL LOCATIONS - 2012
DUMP ROAD AREA

LEGEND

- POND STILLING WELL - NOVEMBER 2012
- GROUNDWATER MONITORING WELL - OCTOBER 2012
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- POND
- TAXIWAY TANGO AREA NORTH
- SOIL OR SEDIMENT VOC SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER VOC SOURCE (from Tetra Tech, 2012a)
- POSSIBLE GROUNDWATER VOC SOURCE BASED ON TCE(EQ) CONCENTRATIONS (from Tetra Tech, 2012a)
- MARYLAND AIR NATIONAL GUARD BOUNDARY

Sample ID
Analyte Concentration

Concentrations are in units of ug/L
J = estimated ealue
ug/L= micrograms per liter
TPH= total petroleum hydrocarbons
DRO= diesel-range organics
GRO= gasoline-range organics
TCE(EQ)= trichloroethene equivalent
VOC= volatile organic compound
TT= Taxiway Tango
(F)= filtered

Screening Levels in ug/L:

Cadmium	5
Chromium	100
Nickel	73
Vanadium	4
2-methylnaphthalene	2
Acenaphthene	37
Carbazole	3
Dibenzofuran	4
Naphthalene	0.7
Benzene	5
Chloroethane	4
1,4-Dioxane	3
1,1-Dichloroethene	7
1,2-Dichloroethane	5
cis-1,2-Dichloroethene	70
Methylene Chloride	5
Toluene	1000
trans-1,2-Dichloroethene	100
Trichloroethene	5
Vinyl Chloride	2
TPH-DRO	47
TPH-GRO	47

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 1/22/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Sediment Sample location map_May2012 with analytes exceeding standards in pond water.mxd) 1/31/2013 -- 9:49:05 AM



FIGURE 4-12

ANALYTES EXCEEDING SCREENING LEVELS IN POND WATER SAMPLES - 2012
DUMP ROAD AREA

LEGEND

- POND SEDIMENT SAMPLE LOCATION- NOVEMBER 2012
- POND SURFACE WATER AND SEDIMENT SAMPLE LOCATION - NOVEMBER 2012
- GROUNDWATER MONITORING WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- SOIL OR SEDIMENT TCE SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER TCE SOURCE (from Tetra Tech, 2012a)
- POSSIBLE GROUNDWATER TCE SOURCE BASED ON TCE(EQ) CONCENTRATIONS (from Tetra Tech, 2012a)
- POND

Ecological screening levels in ug/L

Barium	4
Cadmium	0.25
Chromium	11
Lead	2.5
Mercury	0.026

All concentrations in ug/L (micrograms oer liter)
(F)= filtered sample
J= estimated value
L= sample result is biased low
TCE(EQ)= trichloroethene equivalent

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 25 50 100 Feet

N

DATE MODIFIED: 1/31/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Sediment Sample location map_May2012 with major analytes exceeding standards in pond 1 sediment samples.mxd) 1/31/2013 -- 12:51:57 PM



FIGURE 4-13

MAJOR ANALYTES EXCEEDING SCREENING LEVELS IN POND 1 SEDIMENT SAMPLES- 2012
DUMP ROAD AREA

LEGEND

- POND SEDIMENT SAMPLE LOCATION- NOVEMBER 2012
- POND SURFACE WATER AND SEDIMENT SAMPLE LOCATION - NOVEMBER 2012
- GROUNDWATER MONITORING WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- SOIL OR SEDIMENT TCE SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER TCE SOURCE (from Tetra Tech, 2012a)
- POSSIBLE GROUNDWATER TCE SOURCE BASED ON TCE(EQ) CONCENTRATIONS (from Tetra Tech, 2012a)
- POND

All concentrations are in micrograms per kilogram (ug/kg) except metals, which are in milligrams per kilogram (mg/kg)
TPH= total petroleum hydrocarbons
DRO= diesel range organics
GRO= gasoline range organics
PCBs= polychlorinated biphenyls
TCE(EQ)= trichloroethene equivalent
TCE= trichloroethene
VOC= volatile organic compound
0-1= sample depth in feet below top of sediment surface
' = feet
J= estimated value

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 25 50 100 Feet

N

DATE MODIFIED: 1/31/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Sediment Sample location map_May2012 with major analytes exceeding standards in pond sediment samples.mxd) 1/31/2013 -- 9:58:07 AM



FIGURE 4-14

MAJOR ANALYTES EXCEEDING SCREENING LEVELS IN POND 2 SEDIMENT SAMPLES - 2012
DUMP ROAD AREA

LEGEND

- POND SEDIMENT SAMPLE LOCATION- NOVEMBER 2012
- POND SURFACE WATER AND SEDIMENT SAMPLE LOCATION - NOVEMBER 2012
- GROUNDWATER MONITORING WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- SOIL OR SEDIMENT TCE SOURCE (from Tetra Tech, 2012a)
- GROUNDWATER TCE SOURCE (from Tetra Tech, 2012a)
- POSSIBLE GROUNDWATER TCE SOURCE BASED ON TCE(EQ) CONCENTRATIONS (from Tetra Tech, 2012a)
- POND

All concentrations are in micrograms per kilogram (ug/kg) except metals, which are in milligrams per kilogram (mg/kg)
TCE(EQ)= trichloroethene equivalent
TCE= trichloroethene
0-1= sample depth in feet below top of sediment surface
' = feet
J= estimated value
K= value is biased high; actual value is expected to be lower

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 25 50 100 Feet

N

DATE MODIFIED: 1/31/13

CREATED BY: MP

TETRA TECH

Section 5
Source Areas Evaluation Methodology

The Dump Road Area (DRA) is an unlined dump, so areas of fill and/or buried debris are expected to be possible contaminant source areas. Results of geophysical surveys, test pits, and soil- and groundwater-sample chemical analyses to date have been used in conjunction with hydrogeologic data to assess and define possible unsaturated- and saturated-zone source areas of volatile organic compounds (VOCs) at the DRA. This report further identifies, assesses, and describes VOC source- areas at the DRA, identifies data gaps, and evaluates actions required to further characterize the source areas. Chemical results for the chlorinated VOC (cVOC) trichloroethene (TCE) and the aromatic hydrocarbons benzene, toluene, ethylbenzene, and xylenes (BTEX) are plotted in plan view and on geologic cross-sections in this report. These chemical results were then compared to TCE saturation concentrations to evaluate the possible presence of TCE dense non-aqueous-phase liquids (DNAPLs) and areas of elevated BTEX.

5.1 EVALUATION OF GEOPHYSICAL SURVEY AND TEST PIT RESULTS

The results of a 2007 geophysical survey of the DRA (Tetra Tech, 2012d) and contour maps of the depth and thickness of buried fill and debris areas of the DRA were used to identify possible contaminant source areas. The maps of the fill and debris are based on the results of test pits excavated throughout the site in 2000, 2007–2009, and 2012. Test pits provide a method of exposing and identifying fill and debris and directly measuring depth and thickness.

5.2 EVALUATION OF SOIL SAMPLING CHEMICAL RESULTS

Surface soil (soil at depths of zero to two feet) samples are typically used to evaluate risk to human health posed by direct contact with soil; surface soil samples are also expected to indicate

VOC sources from surface spills or leaks. TCE and BTEX results for soil samples were divided into three soil categories:

- samples collected up to two feet deep (surface soil)
- samples collected between two- and 15-feet (shallow subsurface soil)
- samples collected at depths greater than 15 feet (deep subsurface soil)

Surface soil also represents the upper portion of the vadose (or unsaturated) zone at the DRA. Subsurface soil at the DRA is defined as the shallow portion of the unsaturated zone down to the average depth of the water table. Deep subsurface soil typically represents soil in the saturated zone of the surficial aquifer at the DRA.

Soil data are plotted and contoured in plan view in Section 6 of this report for each of the three categories. Soil results are also plotted on geologic cross-sections, along with the groundwater sampling results in Section 6. The contour maps and cross-sections provide the basis for determining the locations and depths of areas of elevated VOC concentrations in soil at the DRA.

5.3 EVALUATION OF GROUNDWATER SAMPLING CHEMICAL RESULTS

Groundwater at the DRA site has been assessed in three depth zones to better characterize VOC concentrations in three dimensions. The three zones (described in Section 2) are defined as:

- upper surficial-aquifer zone ("S" wells)—extends from the groundwater surface (approximately five to 15 feet below grade) to approximately 30 feet below grade
- intermediate surficial-aquifer zone ("I" monitoring wells)—at depths approximately 30 to 60 feet below grade
- lower surficial-aquifer zone ("D", or deep, monitoring wells)—at depths approximately 60 to 90 feet below grade

Groundwater data from the 2012 round of monitoring well sampling (Tetra Tech, 2013b) were used for these analyses, including data from new wells MW-40S/I through MW-45S. Several wells (DMW-2B, MW-2, DMW-7I, DMW-7D, and DMW-5D) were not sampled in 2010–2012. Therefore, chemical data from 2007 or 2008 were used for these wells. Chemical results from the 2012 direct-push technology (DPT) probe samples (i.e., CPT-01 through CPT-22) and temporary well samples collected in 2002 (e.g., TT-1, PA-1 and DA-1 groundwater samples), and the 2007

DPT groundwater samples (e.g., MIP-28), are plotted in Section 6, along with the upper and intermediate surficial aquifer well data.

Note that DPT probe samples (e.g., CPT-01 and MIP-28) or temporary wells can yield higher concentrations of cVOCs than samples collected from long-term monitoring wells, because DPT and temporary well groundwater samples reflect smaller, discrete sampling intervals. The smaller sampling interval can isolate the more highly contaminated portions of the aquifer from less contaminated portions during groundwater sampling. This is why DPT and temporary wells are considered more effective in developing detailed vertical profiles of contaminants in the subsurface, and are more effective for assessing the possible presence of DNAPL. DPT sampling is particularly effective when groundwater samples are collected at multiple depths from the top of the water table to the base of the target aquifer. DPT sampling programs can thus rapidly delineate contaminant concentrations in three dimensions and guide the installation of groundwater monitoring wells.

Groundwater data for TCE and total BTEX are plotted and contoured in plan view in Section 6 for each aquifer level. Groundwater chemical results are also plotted on three geologic cross-sections, along with the soil sampling results in Section 6. The contour maps and cross-sections generated from the available data provide the basis for determining the locations and depths of elevated VOC concentrations in groundwater at the DRA.

5.4 DNAPL ASSESSMENT

TCE, a strong industrial degreaser used in machining operations, is the primary parent-VOC of concern at the DRA. Its historical use at MSA has produced large groundwater plumes of dissolved TCE and its degradation or "daughter" VOCs *cis*-1,2-dichloroethene (*cis*-1,2-DCE), vinyl chloride (VC), ethane, and ethene. TCE has low solubility in water and is more dense than water. Its physical characteristics are such that it could be in the subsurface in the form of DNAPL, or what is known as "product form."

TCE DNAPL degrades slowly in most subsurface environments, so it persists as a long-term source of dissolved-phase VOC contamination. The location of DNAPL determines the spatial distribution and concentrations of VOCs in the plume. The delineation of DNAPL in the

subsurface is an important component of a conceptual site model and is critical to selecting the proper remedial approach (Kueper and Davies, 2009).

When product is released to the subsurface, DNAPL will become distributed in disconnected blobs and ganglia of organic liquid within the soil, referred to as "residual DNAPL." If sufficiently large volumes of product are released, the ganglia may become connected and form pools of DNAPL. Residual DNAPL can be found above and below the water table along the DNAPL flow pathway in the soil column where it was released. Residual DNAPL is trapped (i.e., immobilized) within the soil by capillary forces, but its presence can result in dissolved-phase plumes of contamination in groundwater that persist for decades to hundreds of years.

DNAPL pools, on the other hand, represent a connected distribution of DNAPL and can flow vertically and horizontally as "product" in the subsurface. DNAPL pool-spreading can increase the size of the DNAPL source area, which then contributes to the dissolved-phase plume over time. DNAPL spreading can be parallel to groundwater flow or in other directions. For example, DNAPL in pools may migrate along low-permeability barriers that may dip away from groundwater flow, or within rock or saprolite (crumbling) fractures that may radiate in several directions (Kueper and Davies, 2009).

The United States Environmental Protection Agency (USEPA) provides a multi-step process for evaluating DNAPL in the subsurface at hazardous waste sites (Kueper and Davies, 2009). Determining whether DNAPL is in the subsurface involves many uncertainties, so USEPA recommends using converging lines of evidence to assess whether DNAPL is present. These lines of evidence were used in this study to evaluate whether DNAPL is likely present in soil and/or groundwater at the DRA. The following sections describe the recommended DNAPL source-zone investigation methods (Kueper and Davies, 2009) and compare DRA investigation results using the recommended investigation methods.

5.4.1 Soil Methods

DNAPL typically migrates through the subsurface very selectively and meanderingly. It may be present as residual DNAPL distributed in noncontiguous portions of the soil column. A significant portion of the contaminant mass may have diffused into lower permeability zones. DNAPL migration can occur within thin lenses and laminations of soil at the scale of inches or

less (Kueper and Davies, 2009). Some DNAPLs are colorless and not readily visible in soil. DNAPL in the subsurface is extremely difficult to locate because of the complex nature of subsurface geology, the complex distribution of preferential contaminant pathways in soil, the location and history of DNAPL releases, and solvent density that creates downward migration.

DNAPL in soil can also vaporize into air-filled pore spaces, which create vapor-phase plumes, but also lowers contaminant concentrations in the soil over time. DNAPL persistence in soil may be short relative to its persistence in groundwater; therefore, the absence of DNAPL in the unsaturated zone may not be sufficient evidence to conclude that DNAPL has not migrated below the water table. Further, flushing the upper portion of the water table via recharge and downward hydraulic gradients in many aquifer systems may reduce groundwater concentrations near the top of the water table and mask higher contaminant concentrations in deeper portions of the aquifer.

5.4.1.1 Visual Observations

DNAPL may be directly observed in soil or groundwater samples. DNAPL can be observed in drill cuttings or soil samples collected during drilling. DNAPL in groundwater may be observed in groundwater samples collected at the bottom of a well using a bailer, or measured using an electronic water level and product-interface probe.

Soil boring logs, well drilling logs, and test pit logs to date indicate elevated field-screening levels detected using a portable photoionization detector (PID). The logs also provide limited indications of DNAPL from visual observations made during fieldwork. During the 1996 expanded investigation conducted for the Maryland Aviation Administration (MAA), soil from Drum Area (DA) boring B-8, at a depth interval of 12–14 feet, was reported to have a strong odor and had a high total VOC reading (greater than 2,500 parts per million) using a portable PID in the field. The boring log also reports that pure product was observed at this depth. Soil samples were collected from this interval (12–14 feet, as noted in the log) and were submitted to both the field laboratory and an off-site analytical laboratory for chemical analyses.

The field laboratory analyses detected TCE at 6.2 milligrams per kilogram (mg/kg) and total petroleum hydrocarbons (TPH)-diesel-range organics (DRO) at 19,000 mg/kg. However, the off-site laboratory analyses reported a much lower TCE concentration: 130 micrograms per kilogram (µg/kg) or 0.130 mg/kg. Therefore, product observed at this shallow depth (i.e., near

the top of the groundwater table) was likely petroleum-related product, or light non-aqueous phase liquid (LNAPL).

In response to the B-8 results, well MW-5 was installed in January 1996 directly downgradient and 12 feet east of boring B-8. In January 1996, TCE, *cis*-1,2-DCE, and toluene were detected in groundwater samples from MW-5 at concentrations of 63,000, 38,000, and 6,900 micrograms per liter (µg/L), respectively. MW-5 is screened from 19–39 feet below grade. The TCE concentration of 63,000 µg/L indicates the likely presence of TCE DNAPL at or near well MW-5.

During the same investigation, free product was observed at depths of four to seven feet in boring B-15, located in the dirt access road near the Petroleum Hydrocarbon Area (PHA). A VOC reading of 9,300 parts per million was recorded for soil at six feet below grade at the groundwater table. The observed product is presumably petroleum-related LNAPL. A sample from 4–7 feet (indicated as that depth in the log, but shown in the table as 7–10 feet) was collected for chemical analyses. TCE was detected at 140 µg/kg and xylenes (a petroleum VOC) were detected at 13,000 µg/kg (13 mg/kg). Well MW-4 was installed in January 1996 near borings B-1 and B-15 to assess the strong petroleum odor observed at B-1. In January 1996, TCE was not detected, and only low concentrations of other VOCs were detected at MW-4. MW-4 is screened from 4–30 feet below grade.

At test pit N4, excavated north of Pond 1 in 2008, a greenish-black liquid reportedly oozed from the ground after the test pit was backfilled. The liquid had a very strong odor similar to nail polish remover (i.e., a solvent odor). The PID recorded a total VOC reading of more than 700 parts per million volume.

As part of the *Chemical Delineation and Groundwater Modeling Report* study (Tetra Tech, Inc. [Tetra Tech], 2002), grab groundwater samples from temporary wells were inspected for free product in response to MDE's request in a letter to Lockheed Martin Corporation (Lockheed Martin) dated August 15, 2001. The 2002 report does not mention free product in the samples. In the past, oil-water-interface probes (instruments that can be used to screen for free product) have not been used at the site. Tetra Tech geologists have not observed DNAPL during site investigations. Therefore, visual observations were not used as a line of evidence to confirm the presence of DNAPLs in this study.

5.4.1.2 Chemical Concentrations in Soil above DNAPL Saturation Threshold

TCE concentrations detected in soil samples can be compared to a DNAPL saturation-threshold concentration. An exceedance of this threshold cVOC concentration is indicative of DNAPL in the unsaturated zone. The threshold DNAPL-saturation in soil is typically assumed to be between five and 10% of soil pore-space. The chemical concentration in soil corresponding to threshold DNAPL saturation (C_D) can be estimated using the following equation (Kueper and Davies, 2009):

$$C_D = \frac{S_r \emptyset \rho_N 10^6}{\rho_b} + C^T$$

where:

C_D = threshold DNAPL soil-saturation concentration, in milligrams per kilogram (mg/kg)

S_r = threshold DNAPL saturation (set between 0.05 and 0.10), the fraction of minimum soil pore space required to be occupied by the DNAPL-saturated product

Ø = effective porosity (unitless): the porosity of the soil that can be occupied by a liquid

ρ_N = DNAPL density, in grams per cubic centimeter (g/cm^3)

ρ_b = dry soil bulk density (g/cm^3)

C^T = partitioning threshold concentration: the contaminant amount (mg/kg) in a soil sample in aqueous, vapor, and sorbed phases

For a TCE DNAPL, the threshold saturation concentration (C_D) equals 9,188 mg/kg (or 9,188,000 µg/kg), using the following assumptions:

S_r = 0.05

Ø = 0.25

ρ_N = 1.47

ρ_b = 2.0 grams per cubic centimeter (g/cm^3)

This ignores C^T, which is negligible compared to the DNAPL saturation term. A soil TCE concentration greater than 9,188 mg/kg is considered conclusive evidence of DNAPL (Kueper and Davies, 2009). TCE concentrations detected in soil and pond sediment at the DRA have not exceeded this concentration.

5.4.1.3 Chemical Concentrations in Soil above the Partitioning Threshold

Soil sampling results can also be compared to a partitioning threshold concentration (C^T). This soil concentration is based on equilibrium partitioning relations of the cVOC in soil, air, and water, and is typically estimated using site-specific soil parameters, if available. A cVOC concentration above this concentration would only indicate the possible presence of DNAPL in the unsaturated or saturated zones (i.e., not conclusive evidence, compared to the saturation-threshold concentration discussed in Section 5.4.1.2). The chemical concentration in soil corresponding to the partitioning threshold can be estimated using the following equation (Kueper and Davies, 2009):

$$C^T = \frac{C_i}{\rho_b}(K_d\rho_b + \theta_w + H'\theta_a)$$

where:

C^T = soil concentration (mg/kg) threshold for a chemical

C_i = effective solubility of chemical, in milligrams per liter (mg/L)

ρ_b = dry soil bulk density (g/cm^3)

K_d = soil water partition coefficient, in milliliters per gram (ml/g) [$K_d = K_{oc}f_{oc}$]

θ_w = water filled porosity (unitless) from moisture content

H' = unitless Henry's Constant

θ_a = air filled porosity (unitless)

K_{oc} = organic carbon-water partition coefficient (ml/g)

f_{oc} = fraction of organic carbon (unitless)

Assuming a TCE DNAPL with C_i = 1,100 mg/L, K_{oc} = 126 ml/g, and H' = 0.31 in a soil sample having θ_w = 0.15, θ_a = 0.10, ρ_b = 2.0 g/cc, and f_{oc} = 0.003, the value of C^T would be 515 mg/kg (or 515,000 µg/kg). This C^T value is used in this study to evaluate soil samples for TCE DNAPL. For samples in the saturated zone, θ_a is zero and θ_w is 0.25. Therefore, C^T in the saturated zone is 553 mg/kg (or 553,000 µg/kg). The C^T calculation requires knowledge of site-specific soil parameters and quantitative chemical analyses of the soil. Measured concentrations that only marginally exceed this concentration may be false positives, primarily because of uncertainty associated with estimating the soil-water partition coefficient (Kueper and Davies, 2009).

5.4.1.4 Site Use/Site History

USEPA studies indicate that DNAPL is associated with specific types of industries, processes, and practices. Some industries and processes that typically use solvents include electronic manufacturing, dry cleaning, metal product manufacturing, engine manufacturing, metal machining, and tool and die operations. Past practices, such as the disposal of solvents in unlined pits, may also contribute to DNAPL formation.

The DRA is an unlined dump historically used to dispose of debris and industrial wastes. Site activities at the time of full-scale site operations include aircraft manufacturing; TCE use as a solvent in these operations has been confirmed. Various petroleum-based fuels, oils, and lubricants were also used at the facility to operate and maintain ground vehicles, aircraft, and machinery. Aerial photographs from the mid-1950s show black staining along the sides of constructed acid and oil pits and what appears to be a floating black substance on the water surface of one pit. Therefore, site history and use provide a positive line of evidence, in conjunction with other lines of evidence, that DNAPLs may be at the site.

5.4.1.5 Vapor Concentrations

The location of an unsaturated-zone vapor plume may indicate the location of current or former DNAPL. Vapor plumes can be measured using active or passive soil-gas sampling techniques. Passive soil-gas sampling has been used at the DRA to guide the placement of soil borings, test pits, and monitoring wells. Membrane-interface probes (MIPs) have also been used at the site as a screening tool to guide placement of soil samples and monitoring wells. However, MIP results were not used for the DNAPL evaluation in this study because soil or groundwater samples were collected at locations where VOC contamination is indicated by MIP results. Soil and groundwater samples from MIP locations provide a more direct indication of DNAPL than MIP readings; therefore, chemical analyses of soil and groundwater samples collected at MIP-indicated locations were used to assess the possible presence of DNAPL at the DRA. Vapor-sampling results alone were not used to evaluate DNAPLs because the vapor results were used to target other, more direct methods such as MIP and soil sampling for chemical analyses.

5.4.2 Groundwater Methods

As discussed previously, using soil sampling results to evaluate for DNAPLs entails numerous difficulties and uncertainties. Therefore, groundwater methods typically offer better means of inferring DNAPL source areas. Groundwater samples generally represent water quality conditions over a larger area, as compared to a soil sample. A groundwater sample at a particular point integrates conditions near the sampling location and, to a lesser extent, groundwater conditions hydraulically upgradient of the sampling location along its flow path. Therefore, groundwater data can be used to "trace" detected constituents back along a groundwater flow path.

5.4.2.1 Magnitude of Groundwater Concentrations

Solvent concentrations in groundwater samples in excess of one percent of the solvent's solubility typically indicate groundwater that may have contacted DNAPL. The water solubility of TCE can vary based on several factors. However, the effective solubility of TCE at 20°–25° Celsius is generally accepted to be 1,100 milligrams per liter (mg/L) if TCE is assumed to be the only product in the DNAPL. Therefore, the TCE concentration at one percent effective solubility ($C_{i\,(1\%)}$) is 11 mg/L or 11,000 µg/L. Thus, a groundwater TCE concentration exceeding 11 mg/L indicates that the groundwater may have come into contact with DNAPL. Groundwater flowing past residual or pooled DNAPL will result in dissolved-phase plumes of VOCs. Above the water table, DNAPLs may produce vapor plumes in the unsaturated zone.

Plots of TCE in groundwater are used to identify possible TCE source areas. A combined BTEX concentration is used to evaluate the locations of possible BTEX source areas. The chemical data used for these analyses are in Section 6 and Appendix K.

5.4.2.2 Other Groundwater Methods

Other methods of evaluating DNAPL in groundwater consist of evaluating for the factors listed below. If applicable, the methods mentioned here are noted and briefly discussed in the evaluation of individual source areas in Section 6:

- a persistent plume
- increasing groundwater concentrations with depth
- contamination in apparently anomalous locations
- evaluation of groundwater-concentration trends with time
- the use of partitioning inter-well tracer tests and MIPs

Section 6
Source Areas Characterization

As discussed in Section 2, the Dump Road Area (DRA) investigation area was initially identified in the 1989 preliminary assessment (PA) as possible acid pits and was investigated in 1991 after the Maryland Aviation Administration (MAA) encountered four drums adjacent to Taxiway Tango during trenching to install an electrical cable. Preliminary investigations from 1992–1996 and follow-on work to date have identified soil and groundwater contaminant source areas through geophysical surveys, soil-gas surveys, trenches, test pits, membrane-interface probe (MIP) screening, soil borings, soil sample analyses, and groundwater sampling and analyses. These investigations identified a large area of soil fill and buried debris east of Taxiway Tango, extending to the base of the embankment at Frog Mortar Creek. Investigation of this fill area identified geophysical electromagnetic (EM) anomalies and areas containing buried debris, soil containing volatile organic compounds (VOCs), and soil containing other soil contaminants, such as polycyclic aromatic hydrocarbons (PAHs) and metals from past dumping and backfilling. Past dumping and backfilling have led to VOCs remaining in soil and pond sediment at the DRA, and to the development of large contaminant plumes of VOCs in groundwater in the upper, intermediate, and deep portions of the surficial aquifer east of Taxiway Tango and extending to Frog Mortar Creek.

6.1 TCE SOURCE AREAS AND DNAPL ASSESSMENTS

Figures 6-1 through 6-3 are contour maps of trichloroethene (TCE) in soil, displayed by three soil-depth categories: surface soil (zero to two feet), shallow subsurface soil (between two to 15 feet), and deep subsurface soil (greater than 15 feet deep). The contours illustrated in Figure 6-1 include the sediment samples collected from Ponds 1 and 2. Figures 6-4 through 6-6 are maps of TCE concentrations in groundwater and groundwater potentiometric surfaces (i.e., groundwater flow potential) for the upper, intermediate, and lower surficial aquifer zones, respectively. In these figures, horizontal groundwater flow is assumed perpendicular to the blue groundwater-elevation contour lines. These figures include chemical results from samples

collected from 2000 (e.g., soil samples and one-time probe groundwater samples) through 2012. Vertical or downward/upward groundwater flow can also occur, but is considered secondary to horizontal groundwater flow.

At the DRA, groundwater in the surficial aquifer generally flows from southwest (airport runway area) to northeast toward Frog Mortar Creek. Within the DRA, areas of local groundwater flow may deviate from the overall southwest–northeast trend due to variations in geologic materials, permeabilities, and recharge. Figure 6-7 shows the locations of hydrogeologic cross-sections developed for this study. Figure 6-8 is a hydrogeologic cross-section through the Taxiway Tango Median Anomaly Area (TT Median Area), the Petroleum Hydrocarbon Area (PHA), Pond 1, and the area east of Pond 1 to Frog Mortar Creek. Figure 6-9 is a hydrogeologic cross-section through the TT Median Area, Taxiway Tango Area East (TT East), and the southern portion of the area east of Pond 1 at wells DMW-2S/A/B. Figure 6-10 is a hydrogeologic cross-section through the Drum Area (DA) and a thick fill area near well cluster DMW-5S/I/D.

Figures 6-11 and 6-12 are northwest–southwest geologic cross-sections through the PHA, TT East, DA, the area east of Pond 1, and the former Pond 3 area, using the CPT lithologic results and probe groundwater TCE concentrations. These two figures show concentrations of both TCE and total cVOCs because some locations have considerable concentrations of cVOCs in the presence of low TCE concentrations. Figures 6-11 and 6-12 have been prepared to use in concert with additional data to be collected in 2013 to develop estimates of contaminant mass flux toward Frog Mortar Creek. Information shown on the figures will aid in targeting future potential source area remedies to areas that can have the greatest impact to reducing treatment duration and surface water quality criteria exceedances. These figures are referenced in the discussion that follows.

The following areas and environmental media are possible source areas of TCE (Figures 6-1 through 6-10):

- PHA, Pond 1 – surface sediment/subsurface soil, groundwater
- TT Median Area – subsurface soil, groundwater
- TT East, former open burning and pit (features #44 and #15) –subsurface soil, groundwater

- Drum Area (feature #51) – surface and subsurface soil, groundwater
- Taxiway Tango Area North (TT North), former ammo bunkers (features #20 and #26) – subsurface soil, groundwater
- area east of Pond 1 – subsurface soil, groundwater
- former Pond 3 (feature #2) – groundwater, soil is unknown
- DMW-4 former debris pile area (feature #50) – soil, groundwater

The affected media for the following possible source areas are unknown. These possible source areas were identified by the aerial photograph review conducted after the 2012 source area characterization work plan:

- former Pond 4/open burning (OB) area (features #43 and #45) – surrounding samples indicate trace to low concentrations of TCE in soil and groundwater
- former Ponds 5 and 6 (features #46 and #47)
- former Pond 7 (feature #42)
- Taxiway Tango Area South (TT South) - former disturbed area (feature #53; see Figure 2-11, Section 2)

6.1.1 Petroleum Hydrocarbon Area and Pond 1

Highly elevated TCE concentrations have been detected in Pond 1 shallow sediments (Figure 6-1) and in intermediate subsurface soil at the PHA. Sediment samples from Pond 1 contain the highest levels of TCE in sediment or soil at the DRA, with concentrations of 55,000 µg/kg in sample EP1-SD9 (2012 sample), 69,000 µg/kg in sample EP1-SD2 (2000 sample), and 270,000 µg/kg in EP1-SD5 (2005 sample). A low concentration of TCE (11 µg/kg for EP1-SD4) was detected in one other sample from Pond 1; the remaining samples are non-detects.

The TCE concentration (270,000 µg/kg) in sample EP1-SD5 is approximately 50% of the saturated (i.e., wet sample) dense non-aqueous phase liquid (DNAPL) saturation threshold concentration (C^T = 553,000 µg/kg) for TCE. Although this sample's TCE concentration does not exceed C^T, it is within the same order of magnitude, which indicates that TCE DNAPL may have been in the Pond 1 sediment, either in unsampled areas of the pond, or in deeper sediments below the depths at which samples EP1-SD5 and EP1-SD2 were collected. The 2012 TCE concentration (55,000 µg/kg) and presence of degradation product *cis*-1,2-dichloroethene

(*cis*-1,2-DCE) in sample EP1-SD9 may indicate that TCE has degraded, thus resulting in lower TCE concentrations in Pond 1 sediment as compared to the concentration detected in 2005 (270,000 µg/kg), or that areas of higher TCE were not sampled in 2012.

Lithologic logs for CPT-21, MW-43S, and MW-39S indicate thick clay in the subsurface downgradient of Pond 1. Although groundwater elevation contours suggest that water from Pond 1 may be infiltrating to the subsurface, organic matter in pond sediments and a thick layer of dense clay underlying the pond likely inhibit any significant movement of VOCs to groundwater. This is confirmed by the TCE concentrations in samples from CPT-21 (TCE maximum detection of 1 µg/L, most samples non-detect), MW-43S (TCE not detected), and MW-39S (5 µg/L).

The PHA is northwest of and adjacent to Pond 1. TCE has been detected in this area either at low concentrations in surface soil, or not at all (Figure 6-1). Therefore, surface soil at the PHA does not appear to represent a TCE source. However, TCE has been detected at elevated concentrations in shallow subsurface soil (Figure 6-2) at depths of four feet (2,000 µg/kg at PHA-SB4-4 and 420 µg/kg at PHA-SB1-4), nine feet (4,000 µg/kg at PHA-SB3-9 and 1,800 µg/kg at MW42-0910), and 12 feet (2,000 µg/kg at PHA-SB2-12). As shown in Figure 6-3, TCE was not detected in deep subsurface soil samples at borings DR-SB-7 (16 and 20 feet), DR-SB-17 (19-feet), DR-SB-10 (24 feet), or MW-42-3435 (34–35 feet).

Figures 6-4, 6-8, and 6-11 show TCE concentrations of 120 µg/L (well DMW-9S) and 1,600 µg/L (CPT-16) in upper surficial-aquifer groundwater. As shown in Figures 6-5 and 6-6, wells DMW-9I and DMW-9D have TCE concentrations of 1,000 and 2,500 µg/L, respectively, and TCE concentrations at CPT-16, CPT-17, and CPT-19 are all less than 3,000 µg/L. These concentrations do not exceed the groundwater TCE DNAPL threshold ($C_{i(1\%)}$) of 11,000 µg/L and do not indicate TCE DNAPL in the surficial aquifer in the PHA area. However, high concentrations of *cis*-1,2-DCE and vinyl chloride (VC) at these locations suggest a possible TCE DNAPL source upgradient (i.e., southwest) of the PHA.

As illustrated in Figures 6-3 and 6-8, TCE concentrations at CPT-03 (53,000 µg/L at 20 feet) and well DMW-11S (16,000 µg/L at approximately 15 feet) indicate the possible presence of TCE DNAPL. The highest TCE concentrations at CPT-03 and DMW-11S appear to be contained within fine-grained silts and clays of the upper surficial aquifer (Figure 6-8). Groundwater

contours in Figures 6-4 through 6-6 indicate that CPT-16 and DMW-9S/I/D are hydraulically downgradient of CPT-03 and DMW-11S, and are likely receiving dissolved-phase TCE from this TT Median source area rather than from TCE in subsurface soil at the PHA. The dissolved-phase TCE appears to be moving within the more permeable sands west and north of Pond 1, and around the low permeability clay found near Pond 1. As shown in Figures 6-6 and 6-8, concentrations of TCE at DMW-9D, MW-20D, MW-26D, MW-18D, DMW-3D, and DMW-2B do not indicate DNAPL in the lower surficial aquifer at the PHA, Pond 1 area, and area east of Pond 1.

6.1.2 Taxiway Tango Median Anomaly Area

The TT Median Area is the open grass area that runs parallel to and between the airport runway on the west and Taxiway Tango to the east. It also includes areas underneath the taxiway and runway and areas west of the runway (Figure 6-1). As shown in Figure 6-1, TCE was either not detected (e.g., samples DR-SB-32-02, DR-SB-34-02, TT-EX3-T15D-2) or was detected at low concentrations in surface soil (e.g., DR-SB-3-SS) in this area. Therefore, the surface soil at the TT Median Area does not appear to represent a TCE source. However, TCE was detected at elevated concentrations in the shallow subsurface soil (Figure 6-2) at depths of 10 feet (7,680 µg/kg at MIP-58-SS-10), six feet (1,300 µg/kg at DR-A-52-06 and 1,200 µg/kg at DR-A23), five feet (6,200 µg/kg at DR-A-62-05 and 1,300 µg/kg at DR-A-53-05), and four feet (1,300 µg/kg at DR-A-54-04 and 550 µg/kg at TT-EX2-T11A-4). As shown in Figure 6-3, TCE concentrations are also moderately high in two deep subsurface soil samples, collected from 18 feet (4,240 µg/kg at MIP-58-SS-18) and 20 feet (315 µg/kg at MIP-61-SS-20). Concentrations in these samples indicate only residual (i.e., sorbed) TCE contamination in soil and do not indicate DNAPL (i.e., TCE free product).

As shown in Figure 6-4, TCE groundwater concentrations at CPT-03 and well DMW-11S (in the upper surficial aquifer in the TT Median Area) are 53,000 and 16,000 µg/L, respectively. These TCE concentrations exceed the TCE $C_{i(1\%)}$ (11,000 µg/L), indicating that TCE DNAPL is likely present. Results for CPT-01, CPT-02, CPT-04, CPT-05, MIP-58 (at a 9–11 foot depth), and MIP-61 (at a 13–15 foot depth) indicate that the possible DNAPL area is limited laterally to the north, south, and west, but appears to extend northeastward beyond CPT-03 toward Taxiway Tango. DNAPL is not indicated in the intermediate and lower surficial aquifer zones (Figures 6-5, 6-6, and 6-8) in this area.

As shown in Figures 6-4 through 6-8, surrounding wells MW-38S, MW-37S, MW-25S/I, MW-26S/I/D, DMW-10S/I, MW-3, MW-22I/D, DMW-1S, and MW-21I/D have TCE concentrations well below the threshold level of 11,000 µg/L. These results indicate that DNAPL is likely restricted to the upper clay-rich portion of the surficial aquifer in the area of CPT-03 and well DMW-11S, and possibly in areas southwest of MIP-58 and MIP-61.

The more than 20 feet of clay beneath well DMW-11S (Figure 6-8) probably limits the elevated level of TCE detected in groundwater at this location to the immediate vicinity of this well. Permeability tests (i.e., slug tests) on wells DMW-11S and DMW-11I show low hydraulic conductivities, ranging from 0.50 feet per day (ft/day) at DMW-11S to 0.90 ft/day at DMW-11I. Although the wells were screened in both silty-clay and sand, the test results primarily reflect the response of the sand layers. Therefore, the silty-clay underlying DMW-11S is expected to have a substantially lower permeability than indicated by these wells.

6.1.3 Taxiway Tango Area East—Open Burning Area and Former Pit—Features #44 and #15

Southeast of DMW-11S, TCE concentrations in groundwater (Figures 6-4, 6-5, 6-9, and 6-11) exceed the DNAPL threshold (11,000 µg/L) at PA-7 (220,000 µg/L at 15 feet), MW-45S (52,000 µg/L at 15-25 feet), CPT-08 (40,000 µg/L at 30 feet), and MIP-30 (13,000 µg/L at 31-33 feet). TCE concentrations at CPT-08 (9,700 µg/L at 35 feet) and MIP-26 (8,000 µg/L at 44–46 feet) are slightly less than the TCE DNAPL threshold. Samples with high TCE concentrations at CTP-08 (35 feet), MIP-30 (31–33 feet deep), MIP-26 (44–46 feet deep), and DMW-1A are from the intermediate surficial aquifer zone at depths of 31–46 feet (CTP-08, MIP-30, and MIP-26) below grade and 45–55 feet below grade (DMW-1A). Results for surrounding wells DMW-1B (screened below DMW-1A), MW-23S/I/D, DMW-1S, MW-21I/D, DMW-8S/I/D, MW-2, and MW-19I/D indicate that the TCE DNAPL area is localized near MW-45S/CPT-08, PA-7, and MIP-30. TCE concentrations in the lower surficial aquifer zone (Figures 6-6 and 6-9) do not indicate the likely presence of DNAPL.

6.1.4 Drum Area and Feature #51

The DA is in the southern portion of the DRA, east of Taxiway Tango (Figure 6-1). A group of deteriorated drums was discovered at this location in 1996 during preliminary environmental investigations at the DRA. Trenches were subsequently excavated and soil samples were

collected for chemical analyses. The drums were discovered at the surface, so any possible soil contamination is likely to have occurred through leaking, spilling, or direct disposal to the ground. Fill Area 5, east of the DA between wells DMW-7S/I/D and DMW-5S/I/D is a large, northwest–southeast trending fill area where up to 11 feet of fill and debris were encountered in test pit excavations. Materials found there include 55-gallon drums, metal scraps, glass, burned materials, plastic, wood, and vehicle parts.

As shown in Figure 6-1, elevated TCE concentrations in DA surface soil samples range from 1,900 to 7,000 µg/kg. The higher concentrations of TCE follow a northwest–southeast linear path running along sampling locations DA-NC-4-1 (6,500 µg/kg), DA-T2-1-2 (7,000 µg/kg), DA-T2-2-2 (7,000 µg/kg), DA-T2-3-2 (5,100 µg/kg), and DA-T4-3-2 (5,900 µg/kg). These concentrations are nearly two orders of magnitude (i.e., 100 times) less than the soil TCE C^T concentration of 553,000 µg/kg. Therefore, these soil sampling results do not indicate DNAPL, but instead indicate sorbed TCE in the soil. However, these elevated concentrations may be a continuing source of TCE contamination in soil and groundwater in the DA. The extent of the elevated levels of TCE in the surface soil have not yet been fully delineated here, particularly in areas northwest, north, east, and southeast of the sampled area.

Shallow subsurface soil samples (between two and 15 feet deep) show sorbed TCE at depth, but at lower concentrations than in the surface soil samples (Figure 6-2). The higher concentrations of TCE in the DA shallow subsurface soil range from 1,500 µg/kg (test pit DR-A39) to a maximum of 68,000 µg/kg at well MW-40S/I (4–6 foot depth). This area has fewer shallow subsurface-soil sampling locations than surface soil sampling locations, but results indicate that TCE distribution in shallow subsurface soil is approximately the same as in surface soil sampling locations. South of wells DMW-7S/I/D, at MIP-55 (Figure 6-3), TCE has been detected at a concentration of 865 µg/kg at 35 feet deep. However, TCE concentrations are 220 µg/kg or less in deep subsurface soil north and southwest of wells DMW-7S/I/D. Except for two samples collected from well boring MW-40S/I in 2012 (samples collected at 22–24 feet and at 30–32 feet depths), deep subsurface soil samples (depths greater than 15 feet) have not been collected below the DA trench samples.

Figures 6-4, 6-10, and 6-12 show groundwater TCE concentrations exceeding the TCE $C_{i(1\%)}$ (11,000 µg/L) in the upper surficial aquifer at CPT-13 (17,000 µg/L), DA-1, and at DA-3

through DA-7. The maximum TCE concentration for these groundwater samples is DA-7 (130,000 µg/L), collected from 26 feet below grade east of the DA trenches and excavation. As shown in Figure 6-5, TCE was also detected in groundwater at concentrations greater than DNAPL threshold concentration (11,000 µg/L) at DA-8 (70,000 µg/L), MIP-28 (68,600 µg/L), DA-4 (64,000 µg/L), DA-5 (53,000 µg/L), DA-3 (48,000 µg/L), DA-6 (33,000 µg/L), and DA-1 (12,000 µg/L). DA-1 through DA-14 were collected at depths ranging from 15 feet (DA-2) to 28 feet (DA-5, DA-8, DA-10, DA-11, and DA-14). MIP-28 was collected from 34 to 36 feet below grade. However, lower TCE concentrations (below $C_{i(1\%)}$) were also detected in 2012 at DMW-7S (4,700 µg/L) and DA-9 (7,300 µg/L). Well DMW-7S is screened 19–29 feet below grade; well DMW-7I is screened at 44–54 feet below grade.

TCE concentrations recorded before 2005 at DMW-7S and before 2004 at MW-5 consistently exceeded 11,000 µg/L. These results support the possible presence of DNAPL in groundwater at the DA. Sampling results indicate that DNAPL in the upper surficial aquifer may extend from the trench area west of sampling location DA-1 and the area between DA-6 and DA-9, several hundred feet northeast of DA-1.

As shown in Figures 6-4 through 6-6, surrounding wells MW-2, MW-19S/I, DMW-8S/I/D, DMW-5I/D, DMW-6S/I/D, and MW-32S/I exhibit TCE concentrations well below the TCE DNAPL threshold-concentration. Groundwater results indicate that DNAPL may be extensive in the upper surficial aquifer, but that it is likely restricted to the upper portion of the surficial aquifer in this area.

TCE concentrations in the DA are shown in cross-section in Figures 6-10 and 6-12. The cross-section shows residual concentrations of TCE in soil from the unsaturated zone at the DA, south of well DMW-7S. However, TCE groundwater concentrations in areas southwest and northeast of well DMW-7S indicate possible DNAPL.

TCE concentrations of 2,300 µg/L (DA-12), 8,780 µg/L (MIP-41, at 24 to 26 feet), and 7,500 µg/L (DMW-5S) do not support the presence of DNAPL (Figure 6-4).Wells DMW-7S and DMW-5S appear hydraulically connected via a three- to six-foot-thick sand layer at the base of both wells (Figure 6-10). This sand layer is underlain by 2.5 to nine feet of clay that is expected to attenuate downward TCE movement into the intermediate and lower surficial-aquifer zones.

Substantially lower TCE groundwater concentrations at DMW-7I/D, CPT-13, DMW-5I/D, and MIP-41 (39–41 foot depth) appear to confirm this (see Figures 6-5, 6-6, and 6-10).

6.1.5 Taxiway Tango Area North—Former Ammo Bunkers—Features #20 and #26

Soil samples were collected in the northwestern area of the DRA (e.g., DR-SB-26, DR-SB-27, DR-SB-28, DR-A-49, DR-A-66, etc.) during recent investigations (Figures 6-1 through 6-3). These samples were collected in response to TCE detected in soil gas samples collected in 2010 and TCE detected in newly installed wells (MW-33S and MW-34S/I) in the area. A recent aerial photograph review indicated that two former ammunition bunkers were located in TT North in the 1950s. The two former bunkers were in areas shown in Figures 6-1 through 6-3 as features #26 and #20; the exact location of the former bunkers is uncertain. Soil boring DR-SB-6 was advanced near feature #26, and soil boring DR-SB-5 and test pit DR-A-49 are near feature #20. Well MW-36S is hydraulically upgradient of feature #20, whereas wells MW-33S/I are probably almost directly downgradient of feature #20. Well MW-33S had a groundwater TCE concentration of 110 µg/L in 2012. Wells MW-34S/I and MW-35S are considered cross-gradient of feature #26.

TCE was detected in this area in only one surface soil sample (DR-SB-29-02), at a trace concentration of 12 µg/kg (see Figure 6-1). As shown in Figure 6-2, TCE was detected at a concentration of 11,000 µg/kg in soil at a depth of 10 feet in sample DR-SB-27-10 (see northwestern contours in Figure 6-2) and at 1,100 µg/kg at 14 feet deep in sample DR-SB31-14. TCE was not detected or was detected at low concentrations in surrounding soil samples collected at this depth (e.g., DR-SB-6-11, DR-SB-29-10, DR-SB-30-08, DR-SB-26, and DR-SB-28-10).

Considering the general configuration of these former features, soil borings DR-SB-27 and DR-SB-31 are similarly arranged. The TCE concentrations detected in soil samples at these boring locations (11,000 µg/kg at DR-SB-27 and 1,100 µg/kg at DR-SB-31) may well represent the actual previous locations impacted by past operations at these former features. Figures 6-4 through 6-6 show low groundwater TCE concentrations at CPT-18 and surrounding wells MW-33S/I, MW-35S, and MW-36S, indicating that the lateral boundary of the TCE is likely localized in this area. Soil and groundwater concentrations do not indicate DNAPL, but

additional soil and groundwater sampling at depth, and near samples DR-SB-27-10 and SR-SB-31-14, is required to further delineate elevated TCE concentrations detected in soil.

6.1.6 Area East of Pond 1

Analytical results for surface and shallow-subsurface soil-samples collected east of Pond 1 (DR-A37, DR-SB-21, PA-16, and N5) do not indicate a soil-based source of TCE east of Pond 1. TCE was detected in deep subsurface soil (20 feet deep) at a concentration of 2,500 µg/kg at MIP-51, approximately 200 feet east of Pond 1. The TCE concentration in a sample collected at a 40-foot depth is substantially lower (3.7 µg/kg). These two samples were collected in the saturated zone, and likely represent concentrations in groundwater rather than TCE sorbed to soil.

Farther east and hydraulically downgradient of well DMW-9S and Pond 1 (Figure 6-5), several intermediate surficial aquifer wells have TCE concentrations at or near $C_{i(1\%)}$ (11,000 µg/L), possibly indicating DNAPL in these areas: MW-18I and DMW-2A (both at 11,000 µg/L) and DMW-3I (10,000 µg/L).

Groundwater elevation contours in Figures 6-4 and 6-5 show that wells MW-18S/I, DMW-3S/I, and DMW-2S/A are hydraulically downgradient of the PHA, well DMW-9S, and Pond 1. TCE results at CPT-21, well MW-43S, and well MW39S, directly downgradient of Pond 1 (Figures 6-4, 6-5, and 6-12), indicate only trace to low VOC concentrations in groundwater. Farther east, at MIP-51, groundwater samples collected at depths of 19–21 feet (upper surficial aquifer) and 39–41 feet (intermediate surficial aquifer) had TCE concentrations of 305 µg/L and 1,485 µg/L, respectively. The TCE concentrations in these samples do not support the presence of DNAPL in the upper surficial aquifer between Pond 1 and DMW-3S/I/D and DMW-2A. TCE detected in wells MW-18S/I, DMW-3S/I, and DMW-2S/A appears to be from a source distinct from Pond 1 or the area east of Pond 1.

6.1.7 Former Pond 3—Feature #2

CPT-22 was advanced in 2012 in an area southeast of Pond 1 that had been indicated as a third pit or pond in historical aerial photographs and topographic maps. Interviews during the 1989 preliminary assessment indicated that a third pit had been used to dump wastes; however, the third pit was not found during the preliminary assessment site visits. TCE in groundwater at well

DMW-2A (11,000 µg/L) (hydraulically downgradient of the former Pond 3 area; see Figures 6-5, 6-9, and 6-12) indicates the possible presence of TCE DNAPL in that area. Additionally, a groundwater sample collected from the intermediate surficial aquifer at MIP-26 (near former Pond 3) had a TCE groundwater concentration of 8,000 µg/L, slightly below TCE DNAPL threshold (11,000 µg/L), indicating possible TCE DNAPL in this area.

As shown in Figures 6-1 through 6-3, soil samples have been collected *around*, but not *in*, the former Pond 3 area (feature #2). The lithologic log for CPT-22 (Figure 6-12) indicates mostly clay from 10 to 20 feet below grade. Below 20 feet, sand and silt mixtures are common. Thinner clay layers occur at approximate depths of 22 feet and 30–32 feet. cVOCs were detected in most groundwater samples collected between 20 and 40 feet deep at CPT-22 (40 feet was the deepest sample collected due to probe refusal); VOC concentrations here increased with depth (Figure 6-12). The maximum TCE concentration at CPT-22 is 140 µg/L, detected in the intermediate surficial aquifer at 40 feet. Lithology could not be logged and groundwater samples could not be collected below 38 feet at CPT-22 due to probe refusal. However, the materials logged at the bottom of the boring, near the depth of the TCE maximum concentration (140 µg/L), are silt mixtures, stiff sand to clayey sand, and very stiff fine-grained material (Figure 6-12).

6.1.8 DMW-4 Former Debris Pile Area—Feature #50

Feature #50 is an area of former fill or debris piles that are visible in a 1956 oblique aerial photograph interpreted during the 2012 historical aerial photograph study. The piles appear to be adjacent dump-truck-sized mounds. This former feature is in the area of present-day monitoring wells DMW-4S/I/D.

Test pits advanced west of this area in 2012 (DR-A-67 through DR-A-75) and previous soil boring samples (DR-SB-22) do not indicate significant concentrations of TCE in soil in this area (Figures 6-1 through 6-3). TCE was detected at a moderately high concentration (1,200 µg/kg) in test pit DR-A-69 soil at a depth of 10 feet, but high concentrations of petroleum VOCs were also detected there (e.g., 830,000 µg/kg chlorobenzene at seven feet, and 185,250 µg/kg BTEX at >15 feet), indicating a possible VOC source area upgradient of DMW-4 in the area of the former debris pile (possible BTEX sources are discussed in Section 6.2.2 below). TCE has been detected in wells DMW-4S/I/D at concentrations ranging from 1,600 µg/L at DMW-4S (upper surficial

aquifer) to 4,700 µg/L at DMW-4D (lower surficial aquifer). DMW-4 is downgradient of DMW-8. DMW-4 wells have consistently higher TCE concentrations as compared to DMW-8 wells. The source for these higher downgradient TCE concentrations at wells DMW-4S/I/D has not been established.

6.1.9 Former Pond 4/Open Burning Area—Features #43 and #45

Former Pond 4/OB Area (features #43 and #45 in Figure 6-1) is a pond or pit and an open burning area that were identified in a 1956 oblique aerial photograph. These former features are southwest of the DA and wells MW-2 and MW-19. The former pond or pit was interpreted as being beneath present day Taxiway Tango. As shown in Figures 6-1 through 6-6, soil and groundwater have been sampled around these features, but samples have not been collected directly in the areas mapped for these former features. Results for soil samples collected around these former features (TT-9-1, and test pits DR-A-55, DR-A-56, and DR-A-59) indicate only trace concentrations of cVOCs in surface and subsurface soil (Figure 6-1 through 6-3).

Figure 6-4 shows that TCE was detected either at a low concentration (23 µg/L in shallow groundwater at TT-14, upgradient of these former features), or was not detected at all (in TT-9, a shallow sample collected cross-gradient to these former features). TCE concentrations at potentially downgradient well locations MW-2 and MW-19I are 6.8 and 39 µg/L, respectively (Figure 6-5). However, these wells may be too far south and too deep to adequately monitor the quality of groundwater flowing from these features to downgradient areas. Twelve feet of low-permeability clay separate the upper surficial aquifer (where cVOCs would be expected to be present at these features) from deeper portions of the surficial aquifer monitored by wells MW-2 and MW-19I (see Figure 6-10). Groundwater and soil above this clay layer may be impacted by cVOCs emanating from these features, but well MW-2 is beneath the clay, which is expected to inhibit the downward movement of cVOCs from the upper surficial-aquifer zone to the deeper zones monitored by wells MW-2 and MW-19I.

6.1.10 Former Ponds 5 and 6—Features #46 and #47

Former Ponds 5 and 6 were small ponds or pits identified in a 1956 oblique aerial photograph. These ponds were north of the PHA and well MW-4 on both the western and eastern sides of the DRA unpaved road. To date, cVOCs have not been characterized in soil or groundwater in the former areas of these ponds. TCE has been detected in surrounding soil samples, but only at trace

concentrations in surface or subsurface soil (Figures 6-1 through 6-3). TCE was not detected in groundwater from MW-4 (the well nearest these features) in 2012 (Figure 6-4). TCE and other cVOCs have been detected north and south of these former ponds, but these areas have not been directly sampled. Since past activities at the DRA included chemical dumping in pits at several areas, dumping of chemicals in these areas cannot be ruled out.

6.1.11 Former Pond 7—Feature #42

Feature #42 was interpreted in the 2012 aerial photograph study as a pond or pit near Frog Mortar Creek. It is currently in the wetland area. This pond was observed in a 1957 aerial photograph; before 1957, feature #42 appears in photographs as the lowest point in the larger fill area of the former Limehouse Cove. Water in this area would pond near the earthen berm. Photographs do not indicate dumping here; however, chemical dumping and backfilling with debris have historically occurred in the DRA; therefore, dumping of chemicals in this area cannot be ruled out. Furthermore, because this area in the 1950s was the lowest point in the former Limehouse Cove fill area, liquids released to the larger fill area that did not infiltrate locally into the ground may have accumulated in this low area.

To date, soil and groundwater have not been fully characterized in the area of this former pond. TCE was detected infrequently and at trace concentrations in soil samples collected near this feature (Figures 6-1 through 6-3). Groundwater sampling results for wells MW-18S/I and DMW-3S/I, located west and hydraulically upgradient of this former pond, indicate that high groundwater concentrations of cVOCs would be expected in the upper and intermediate surficial aquifer zones beneath this former pond.

6.1.12 Taxiway Tango Area South—Feature #53

Feature #53 was interpreted in the 2012 aerial photographs study as a large area of exposed soil (i.e., a ground scar), a sand pit, or a soil depression in the southern portion of what is currently Taxiway Tango (see Figure 2-11, Section 2). The large ground scar was on the western side of the Compass Rose Area (CRA) in aerial photographs dated 1945–1956. This feature is not evident in a 1957 aerial photograph, as Taxiway Tango had been built by that time. Historical photographs do not indicate dumping in this area, but open burning is evident northwest of this feature. Past activities at the DRA included chemical dumping and open burning in several areas; therefore, dumping of chemicals near feature #53 cannot be ruled out.

To date, soil and groundwater have not been characterized in the area of feature #53. Furthermore, the origin of cVOCs in Frog Mortar Creek adjacent to the CRA has not been determined. cVOC concentrations in the creek adjacent to feature #53 are typically similar to those detected to the north in Frog Mortar Creek samples collected adjacent to DRA. cVOCs may have been transported in the surface water of Frog Mortar Creek or may be the result of groundwater seepage from the CRA. The absence of VOCs in groundwater at wells DMW-6S/I/D indicates a southern boundary for groundwater contamination at the DRA; however, groundwater quality in the surficial aquifer at the CRA has not been assessed.

6.2 BTEX SOURCE AREA EVALUATION

Figures 6-13 through 6-15 are contour maps of BTEX in soil for the three soil-depth categories of surface soil (zero to two feet), shallow subsurface soil (between two and 15 feet below ground surface), and deep subsurface soil (greater than 15 feet deep), respectively. Figure 6-13 also includes BTEX results for the shallow sediment samples collected from Ponds 1 and 2. Figures 6-16 through 6-18 are contour maps of BTEX groundwater concentrations and groundwater potentiometric surfaces (i.e., groundwater flow potential) for the upper, intermediate, and lower surficial aquifer zones, respectively. These figures include chemical results from samples collected from 2000 (e.g., soil samples and one-time probe groundwater samples) through 2012. In these figures, horizontal groundwater flow is assumed perpendicular to the blue groundwater elevation contour lines. Figure 6-19 is a hydrogeologic cross-section through the TT Median Area, the PHA, Pond 1, and the area east of Pond 1. Figure 6-20 is a hydrogeologic cross-section through the TT Median Area, TT East, and the southern portion of the area east of Pond 1 at wells DMW-2S/A/B. Figure 6-21 is a hydrogeologic cross-section through the DA and a thick fill area near well cluster DMW-5S/I/D. These figures are referenced in the following discussion.

Figures 6-13 through 6-21 show the following areas and environmental media as possible BTEX sources:

- PHA, Pond 1 — surface sediment/subsurface soil, groundwater
- TT Median Area — subsurface soil, groundwater
- TT East-former open burning and pit (features #44 and #15) — subsurface soil, groundwater

- Drum Area (feature #51) — groundwater
- DMW-4 former debris pile area (feature #50) — soil; groundwater is unknown

The affected media are unknown for the following potential source areas identified using the historical aerial photographs discussed in Section 6.1:

- former Pond 3 (feature #2) — soil is unknown
- former Pond 4/open burning (OB) area (features #43 and #45)
- unknown (nearby samples indicate trace to low concentrations in soil and groundwater)
- former Ponds 5 and 6 (features #46 and #47)
- former Pond 7 (feature #42)
- Taxiway Tango South - former disturbed area (feature #53; see Figure 2-11, Section 2)

Feature #51 (the debris piles) is in the DA, and the former open burning area and pit (features #15 and #44) are in the TT East area. Therefore, these features are combined with the previously identified DA and TT East source areas. These former features/possible source areas are plotted in the Section 6 figures and summarized below.

6.2.1 Petroleum Hydrocarbon Area and Pond 1

Highly elevated BTEX concentrations have been detected in Pond 1 shallow sediments (Figure 6-13) and in the intermediate subsurface soil (Figure 6-14). Sediment samples from Pond 1 contain the second highest levels of BTEX in sediment or soil at the DRA, with elevated BTEX concentrations ranging from 1,942 µg/kg at EP1-SD4 (2005) to 567,000 µg/kg at EP1-SD9 (2012). As shown in Figure 6-13, the highest BTEX concentrations are in sediment samples collected in the center of the pond and at the southern end of the pond. BTEX were also highest in the deeper 1–2 foot samples. Xylenes and toluene comprise 86–100% of the BTEX detected in the Pond 1 sediment samples collected in 2012. Benzene was detected in six samples in 2012, at concentrations ranging from 16–230 µg/kg; however, high levels of benzene isomers, such as 1,2,4-trimethylbenzene (up to 31,000 µg/kg), chlorobenzene (up to 11,000 µg/kg), and 1,2,3-trimethylbenzene (up to 11,000 µg/kg), were also detected.

The PHA is northwest and adjacent to Pond 1. BTEX were either not detected or were detected at low concentrations in PHA surface soil (Figure 6-13). Therefore, surface soil at the PHA does not appear to represent a BTEX source. However, BTEX was detected at elevated concentrations in numerous shallow subsurface soil samples (Figure 6-14) at depths of four feet (200,380 µg/kg at PHA-SB4-4) to 12 feet (100,200 µg/kg at DR-SB-2).

The highest reported concentration of BTEX at the PHA is 2,138,900 µg/kg, detected in a sample collected from test pit DR-A33 (six-feet deep). Soil boring PHA-SB-1 (Figure 6-14) was advanced adjacent to the 1996 soil boring B-15, where free product had been observed at 4–7 feet, and a field VOC reading of 9,300 parts per million had been recorded for soil at six feet below grade. BTEX were detected at 1,470 µg/kg adjacent to boring B-15 in sample PHA-SB-1-4 (Figure 6-14), collected at a depth of four feet. Many of the elevated BTEX concentrations are near the water table, including the DR-A33 sample. As shown in Figure 6-15, BTEX were detected at low concentrations ranging from 2.97 to 20.47 µg/kg in deep subsurface soil samples at borings DR-SB-7 (16 and 20 feet), boring DR-SB-17 (19 feet), boring DR-SB-10 (24 feet), and boring MIP-25 (40 feet).

The highest BTEX concentrations in groundwater at the PHA are generally in the upper surficial aquifer samples: at well DMW-9S, the BTEX concentration is 10,580 µg/L (Figure 6-16). Southwest of DMW-9S, BTEX were detected at concentrations of 43,520 µg/L at PA-1 (12 feet; primarily xylenes at 35,000 µg/L and toluene at 6,800 µg/L); 6,340 µg/L at CPT-16 (30 feet), 4,831 µg/L at MW-42S (10.5 feet); 1,300 µg/L at TT-3 (14.5 feet; toluene only); and 8 µg/L at SB-13 (28 feet; benzene only). A moderately low BTEX concentration (75.8 µg/L) was detected southeast of DMW-9S and west of Pond 1 at MIP-25 (14–16 feet). BTEX were not detected southeast of the PHA at PA-3 (28 feet) and north of the PHA at well MW-4 (screened from three to 30 feet, with groundwater typically at seven to eight feet). However, BTEX were also detected at CPT-03 (32,260 µg/L at 20 feet) on the western side of Taxiway Tango, and appear to be comingling with BTEX detected closer to the PHA.

As shown in Figures 6-17 and 6-19, the highest BTEX concentration was detected at a depth of 45 feet at CPT-16 (62,300 µg/L). BTEX were detected at CPT-16 at relatively high concentrations in samples collected from 20–55 feet (Figure 6-19). As shown in Figures 6-17 and 6–18, the intermediate and deep wells DMW-9I, MW-42I, and DMW-9D, and the intermediate

samples at CPT-17 and CPT-19 at the PHA, have BTEX concentrations ranging from 4 µg/L (CPT-17) to 169 µg/L (CPT-19), indicating that high concentrations of BTEX are typically not at depths near the apparent PHA source area. However, the BTEX concentration of 19.6 µg/L for MW-42I (28–33 feet) contradicts the high BTEX of 62,300 µg/L detected at 45 feet at CPT-16 and 6,340 µg/L at 30 feet (see Figure 4-6 in Section 4).

In surrounding well (MW-4, MW-26S/I/D, DMW-10S/I, and DMW-20S/I/D) and CPT samples, BTEX were either not detected or were detected at low concentrations ranging from 4.38–66.8 µg/L. Farther east and hydraulically downgradient of well DMW-9S and Pond 1, upper surficial-aquifer groundwater samples PA-12, PA-13, CPT-20, and CPT-21, and wells MW-39S, DMW-3S, and DMW-2S (Figure 6-13), have lower BTEX concentrations, ranging from two to 44 µg/L. As shown in Figures 6-17 and 6-18, BTEX were not detected in other downgradient wells (DMW-3I/D, MW-18S/I/D, DMW-2A and DMW-2B).

The PHA and Pond 1 BTEX concentrations are shown in cross-section in Figure 6-17. The cross-section shows high concentrations of BTEX in the unsaturated and saturated zones in the PHA and in Pond 1 sediment. As described above, the highest BTEX concentrations in groundwater (62,300 and 43,520 µg/L) were found at CPT-16 and PA-1, southwest of well DMW-9S. High BTEX concentrations were not found in the deeper wells of well cluster (DMW-9I and DMW-9D), or at any of the surrounding well locations.

6.2.2 Taxiway Tango Median Anomaly Area

As mentioned previously, the TT Median Area is the open grass area that runs parallel to and between the airport runway on the west and Taxiway Tango to the east. It also includes areas underneath the taxiway and runway, and areas west of the runway. As shown in Figure 6-13, BTEX were not detected or were detected at low concentrations in surface soil at the TT Median Area. Although sampling coverage is sparse, surface soil at the TT Median Area does not appear to represent a BTEX source.

BTEX was detected at elevated concentrations in shallow subsurface soil at the TT Median Area at depths up to 10 feet at TT-EX11 and TT-EX2 (see Figure 6-14). The highest soil BTEX concentration is 2,348,720 µg/kg in TT sample TT-EX2-T1-5 (Excavation 2), collected from a depth of five feet. Few deep subsurface soil samples greater than 15 feet were collected in the TT

Median Area (Figure 6-15). However, BTEX was detected at moderate concentrations in soil samples: at 6,997 µg/kg at MIP-58 (18 feet) and 931 µg/kg at MW41 (24-26 feet). MIP-58 is between TT-EX2 (Excavation 2) and TT-EX3 (Excavation 3).

As shown in Figures 6-16 to 6-18 and 6-20, BTEX in the TT Median Area have substantially affected shallow groundwater in the upper surficial aquifer at CPT-03 (32,260 µg/L), MIP-58 (5,224 µg/L, at 9–11 feet), TT-1 (762 µg/L), well DMW-11S (420 µg/L), and MIP-61 (317 µg/L, at 13–15 feet). Toluene is the predominant BTEX component detected in MIP-58 and MIP-61, and is the only BTEX component detected at DMW-11S. Low concentrations of BTEX were detected at MW-23S and DMW-1S, southeast of DMW-11S and MW-26S. BTEX at CPT-03 appear to comingle with BTEX downgradient and to the northeast at probe sample TT-3 and the CPT-16/MW-42S/I area.

6.2.3 Taxiway Tango Area East—Former Open Burning Area and Pit—Features #44 and #15

Southeast of DMW-11S, soil samples were collected near wells DMW-1A and DMW-1B in an area now designated TT East. Historically, BTEX have been detected in groundwater wells DMW-1A/B, east of Taxiway Tango; however, the BTEX source was unknown. Recent historical research indicates that open burning was done near DMW-1A/1B in 1952, and that in 1955 a pit was northeast of DMW-1A/1B.

Samples DR-SB-12-5 and DR-SB-12-9 (collected near well DMW-1A/B) indicate BTEX in shallow subsurface soil at depths of five to nine feet. A sample collected from eight feet deep at test pit A27 (excavated near DR-SB-12) had a BTEX concentration of 506,700 µg/kg, corroborating the results of samples DR-SB-12-5 and DR-SB-12-9. Northeast of test pit A27, BTEX were detected at high concentrations in the soil boring for well MW-41S/I. BTEX were also detected in soil samples at concentrations greater than 1,000 µg/kg in test pit soil samples from DR-A-60 and DR-A-61 near Taxiway Tango.

Soil sampling results confirm that petroleum hydrocarbons are in the TT East area and likely responsible for BTEX in groundwater detected at temporary-well samples PA-7, TT-5 (which had a chlorobenzene concentration of 50,000 µg/L), and in groundwater samples CPT-08, MIP-30, MIP-26, MW-45S, MW-41S/I, DMW-1A and DMW-1B (Figures 6-16 through 6-18 and 6-20). Although deep subsurface soil samples have not been collected near well

DMW1A/1B area, soil samples DR-MW-41-2426 and MIP-30-SS-20, collected at depths of 24–26 and 20 feet, respectively, indicate residual levels of BTEX (931 and 84.6 µg/kg, respectively) in deep subsurface soil.

6.2.4 Drum Area and Feature #51

BTEX concentrations in surface, shallow subsurface, and deep subsurface soil in the DA (Figures 6-13 through 6-15 and 6-21) do not indicate a significant soil-based BTEX source. BTEX were not detected in most DA soil samples. The maximum BTEX concentration (110 µg/kg) was detected in a soil sample (DR-SB-14 at 15 feet) adjacent to wells DMW-7S/I/D (Figure 6-13).

As shown in Figure 6-16, BTEX were detected at moderate to high concentrations in the upper surficial aquifer at DA-6 (26,200 µg/L), MIP-28 (4,632 µg/L), DA-7 (1,820 µg/L), DA-5 (1,700 µg/L), and DA-8 (580 µg/L). These samples were collected in 2001–2002 (DA samples) and 2007–2008 (MIP sample). Samples collected in 2012 at multiple depths at CPT-11 through CPT-15, and at wells DMW-7S and MW-40S (area of DA-7), indicate substantially lower BTEX concentrations in the upper surficial aquifer, ranging from 68 µg/L at DMW-7S to 250 µg/L at CPT-13 (25 feet). Except for the BTEX concentration at MW-40I (234 µg/L), trace concentrations were detected in the intermediate and lower surficial-aquifers at wells DMW-7I (0.73 µg/kg; Figure 6-17) and DMW7D (0.59 µg/kg; Figure 6-18). BTEX were not detected in the DA trench area (DA-1, DA-2, and DA-3), or south of the DA (MIP-55 and MIP-36). However, the analytical detection limits for DA-1 and DA-3 were elevated; therefore, moderate concentrations of 500–2,500 µg/L (the range of sampling detection limits) for each BTEX component would not have been detected in these two samples.

As shown in Figure 6-21, wells DMW-7S and DMW-5S appear hydraulically connected via a three- to six-feet-thick sand layer at the base of both wells. BTEX were detected hydraulically downgradient of the DA in upper surficial aquifer samples DA-9 (590 µg/L), DA-12 (2,200 µg/L), and MIP-41 (10.4 µg/L at 24–26 feet). However, BTEX were not detected downgradient in the upper surficial aquifer well DMW-5S. The upper surficial aquifer sand layers at wells DMW-7S and DMW-5S are underlain by 2.5–9 feet of clay, which would be expected to attenuate the downward movement of BTEX to the intermediate and lower surficial-aquifer zones. This is confirmed by the absence of BTEX detections at DMW-5I/D, and the substantially lower BTEX

concentrations (less than 1 µg/L) at DMW-7I/D and MIP-41 (39–41 feet deep, see Figures 6-17 and 6-18).

6.2.5 DMW-4 Former Debris Pile Area—Feature #50

Feature #50 is an area of former fill or debris piles that are visible in a 1956 oblique aerial photograph used in the 2012 historical aerial photograph study. The piles appear to be adjacent dump-truck-sized mounds. The piles covered a large area and were possibly later used during grading and construction of Taxiway Tango. This former feature is in the area of present-day monitoring wells DMW-4S/I/D.

Test pits advanced west of this area in 2012 (DR-A-67 through DR-A-75) and previous soil boring samples (DR-SB-22) indicated elevated BTEX and chlorobenzene concentrations in soil in this area (Figures 6-13 through 6-15). Chlorobenzene (830,000 µg/kg) was detected in a soil sample collected at a depth of seven feet in test pit DR-A-74, located east of the DRA unpaved roadway. BTEX were detected in the seven-foot sample (129,000 µg/kg), and at 10 feet (37,700 µg/kg) at DR-A-74.

BTEX (182,250 µg/kg) were also detected at a depth greater than 15 feet at test pit DR-A-68, located east of DR-A-74 and approximately 100 feet from wells DMW-4S/I/D. In 2012, BTEX was not detected in wells DMW-4S/I/D, which appear to be hydraulically downgradient of these test pits (Figures 6-16 through 6-18). Historically, BTEX have not been detected in wells DMW-4S/I/D. Probe groundwater sampling has not been conducted upgradient of these wells.

6.2.6 Former Pond 3—Feature #2

In 2012, CPT-22 was advanced southeast of Pond 1in an area judged a third pit or pond in historical aerial photographs and topographic maps. Interviews conducted as part of the 1989 preliminary assessment (MDE, 1989) indicate that a third pit was used to dump wastes; however, the third pit was not found during the preliminary assessment site visits. As shown in Figures 6-13 through 6-15, soil samples have been collected around but not in the former Pond 3 area (feature #2). The lithologic log for CPT-22 indicates mostly clay from 10 to 20 feet below grade. Below 20 feet, sand and silt mixtures are common. Thinner clay layers occur at approximate depths of 22 feet and 30-32 feet.

As shown in Figures 6-16 and 6-17, BTEX were not detected in CPT-22 groundwater samples collected in the upper and intermediate surficial aquifer zones from 20–40 feet (40 feet was the deepest sample collected due to probe refusal). BTEX were also not detected in nearby upper surficial aquifer well DMW-8S and probe locations PA-8 and PA-13 (Figure 6-16). BTEX were detected only at trace to low concentrations in samples PA-6 (3 µg/L), MIP-26 (1.6 and 216 µg/L), MW-39S (3.15 µg/L), and CPT-21 (2 µg/L).

6.2.7 Former Pond 4/Open Burning Area—Features #43 and #45

Former Pond 4/OB area (features #43 and #45 in Figure 6-13) is a pond or pit and an open burning area identified in a 1956 oblique aerial photograph reviewed as part of the 2012 historical aerial photograph study. These former features are southwest of the DA and wells MW-2 and MW-19. The former pond or pit was interpreted as being beneath present-day Taxiway Tango. As shown in Figures 6-13 through 6-18, soil and groundwater around these features have been sampled, but no samples have been collected directly in the areas mapped for these former features. Results for soil samples collected around these former features (TT-9-1 and test pits DR-A-55, DR-A-56, and DR-A-59) indicate only trace concentrations of BTEX in surface and subsurface soil (Figures 6-13 and 6-14).

BTEX were not detected in groundwater samples collected upgradient (TT-14) or cross-gradient (TT-9) to these former features, although BTEX were detected at TT-10 (12 µg/L) on the east side of Taxiway Tango (Figure 6-16). BTEX were not detected, or were less than 1 µg/L, at downgradient wells MW-2 and MW-19I. However, these wells may be too far south of the former features, and are too deep to adequately monitor the quality of groundwater flowing from these features to downgradient areas. Twelve feet of low-permeability clay separate the upper surficial aquifer (where BTEX would be expected to be present at these features) from deeper portions of the surficial aquifer monitored by wells MW-2 and MW-19I (see Figure 6-21). Groundwater and soil above this clay layer may be impacted by BTEX emanating from these features, but well MW-2 is beneath the clay, which is expected to inhibit the downward movement of BTEX from the upper surficial-aquifer zone to the deeper zones monitored by wells MW-2 and MW-19I.

6.2.8 Former Ponds 5 and 6—Features #46 and #47

Former Ponds 5 and 6 are historical (and now gone) small ponds or pits that were identified in a 1956 oblique aerial photograph during the 2012 historical aerial photograph study. The area of these former ponds is north of PHA and well MW-4, on both the western and eastern sides of the DRA unpaved road. To date, soil and groundwater have not been characterized for petroleum VOCs in this area.

Surrounding soil samples, however, indicate only trace to moderate concentrations of BTEX (up to 781 µg/kg in sample SB-17, collected at 12 feet) in surface or subsurface soil (Figures 6-13 through 6-15). In 2012, BTEX were detected in groundwater at a low concentration (1.3 µg/L) at well MW-4, near these former features (Figure 6-16). BTEX have been detected primarily south of these former features at the PHA, but the locations of these former features have not been directly sampled for soil or groundwater quality. Additionally, past DRA activities dumped chemicals in pits at several areas; therefore, dumping of chemicals in these areas cannot be ruled out.

6.2.9 Former Pond 7—Feature #42

During the 2012 aerial photograph study, feature #42 was interpreted in a 1957 photograph as a pond or pit near Frog Mortar Creek. It is now in the wetland area of the site. Before 1957, feature #42 appears to have been the lowest point in the former Limehouse Cove (now filled). Water would pond near the earthen berm in this area. Historical photographs do not indicate dumping in this area; however, past DRA activities included chemical dumping and backfilling with debris; therefore, chemical dumping in this area cannot be ruled out. Furthermore, because this area was once the lowest point in the former Limehouse Cove fill area, liquids released to the larger fill area that did not infiltrate locally into the ground may have accumulated here.

To date, soil and groundwater have not been characterized in the area of this former pond feature. Results for soil samples collected near this feature (Figures 6-13 through 6-15) indicate only trace to low BTEX concentrations in soil. Wells MW-18S/I/D and DMW-3S/I/D, located west and hydraulically upgradient of this former pond feature, indicate only low BTEX (44 µg/L) in groundwater at upper surficial aquifer well DMW-3S (Figures 6-16 through 6-18). These wells are upgradient of the former pond feature, and dumping of petroleum hydrocarbons at this location would not be reflected in these groundwater results.

6.2.10 Taxiway Tango South—Feature #53

Feature #53 was interpreted in the 2012 aerial photograph study as a large area of exposed soil (i.e., a ground scar), a sand pit, or a soil depression in the southern portion of what is now Taxiway Tango (see Figure 2-11, Section 2). The large ground scar was on the western side of the CRA in aerial photographs dated 1945–1956. The feature was not observed in a 1957 aerial photograph, as Taxiway Tango had been built by then. The photographs do not indicate dumping in this area, but open burning northwest of this feature is evident in them. Past DRA activities included chemical dumping and open burning in several areas; therefore, dumping of chemicals in this area cannot be ruled out.

To date, soil and groundwater have not been characterized in the area of this former feature. Although cVOCs have been detected in Frog Mortar Creek samples collected adjacent to the CRA, only low concentrations of toluene have been (infrequently) detected in those Frog Mortar Creek samples. The source of the toluene in these samples has not been determined. Although toluene is a common site soil and groundwater VOC, it is also a common constituent of gasoline, which is sold by nearby marinas and used in recreational watercraft in Frog Mortar Creek.

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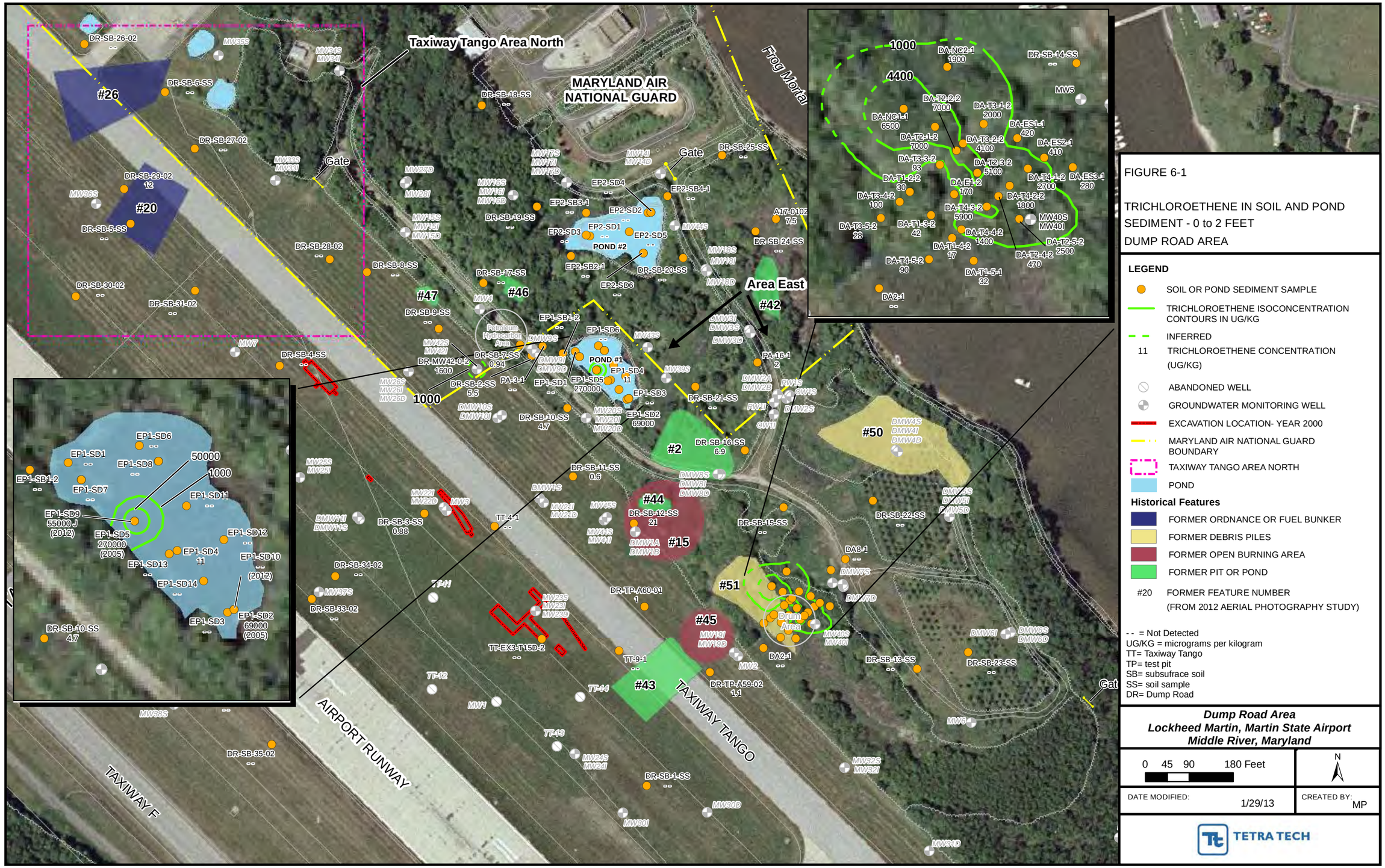

FIGURE 6-1

TRICHLOROETHENE IN SOIL AND POND SEDIMENT - 0 to 2 FEET
DUMP ROAD AREA

LEGEND

- SOIL OR POND SEDIMENT SAMPLE
- TRICHLOROETHENE ISOCONCENTRATION CONTOURS IN UG/KG
- INFERRED
- 11 TRICHLOROETHENE CONCENTRATION (UG/KG)
- ABANDONED WELL
- GROUNDWATER MONITORING WELL
- EXCAVATION LOCATION- YEAR 2000
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- TAXIWAY TANGO AREA NORTH
- POND

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

-- = Not Detected
UG/KG = micrograms per kilogram
TT= Taxiway Tango
TP= test pit
SB= subsufrace soil
SS= soil sample
DR= Dump Road

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 45 90 180 Feet

N

DATE MODIFIED: 1/29/13

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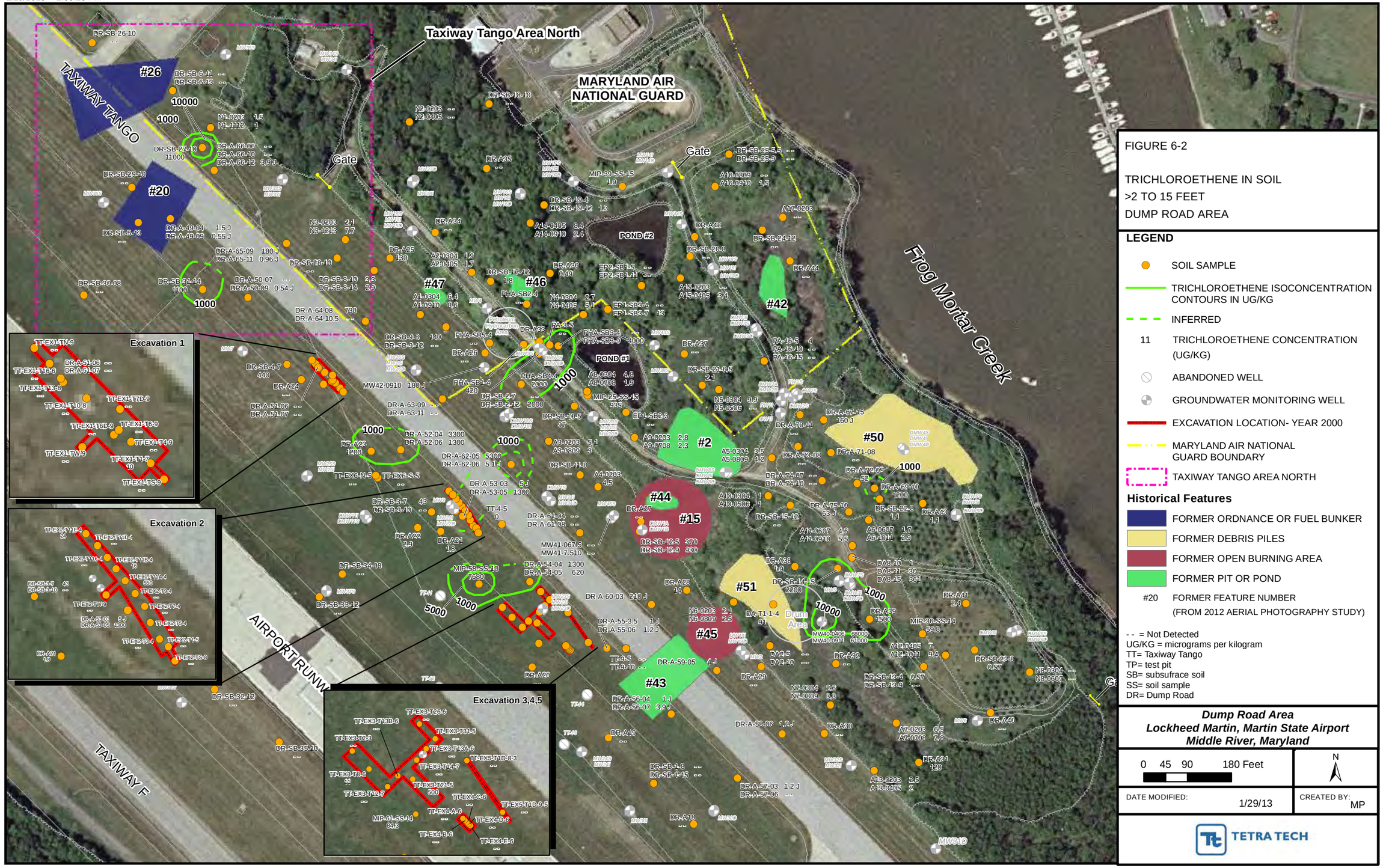

FIGURE 6-2

TRICHLOROETHENE IN SOIL
>2 TO 15 FEET
DUMP ROAD AREA

LEGEND

- SOIL SAMPLE
- TRICHLOROETHENE ISOCONCENTRATION CONTOURS IN UG/KG
- INFERRED
- 11 TRICHLOROETHENE CONCENTRATION (UG/KG)
- ABANDONED WELL
- GROUNDWATER MONITORING WELL
- EXCAVATION LOCATION- YEAR 2000
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- TAXIWAY TANGO AREA NORTH

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

-- = Not Detected
UG/KG = micrograms per kilogram
TT= Taxiway Tango
TP= test pit
SB= subsurface soil
SS= soil sample
DR= Dump Road

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 45 90 180 Feet

N

DATE MODIFIED: 1/29/13

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FIGURE 6-3

TRICHLOROETHENE IN SOIL
>15 FEET
DUMP ROAD AREA

LEGEND

- SOIL SAMPLE
- TRICHLOROETHENE ISOCONCENTRATION CONTOURS IN UG/KG
- INFERRED
- 11 TRICHLOROETHENE CONCENTRATION (UG/KG)
- ABANDONED WELL
- GROUNDWATER MONITORING WELL
- EXCAVATION LOCATION- YEAR 2000
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- TAXIWAY TANGO AREA NORTH
- POND

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

- - = Not Detected
UG/KG = micrograms per kilogram
TT= Taxiway Tango
TP= test pit
SB= subsufrace soil
SS= soil sample
DR= Dump Road

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 1/30/13

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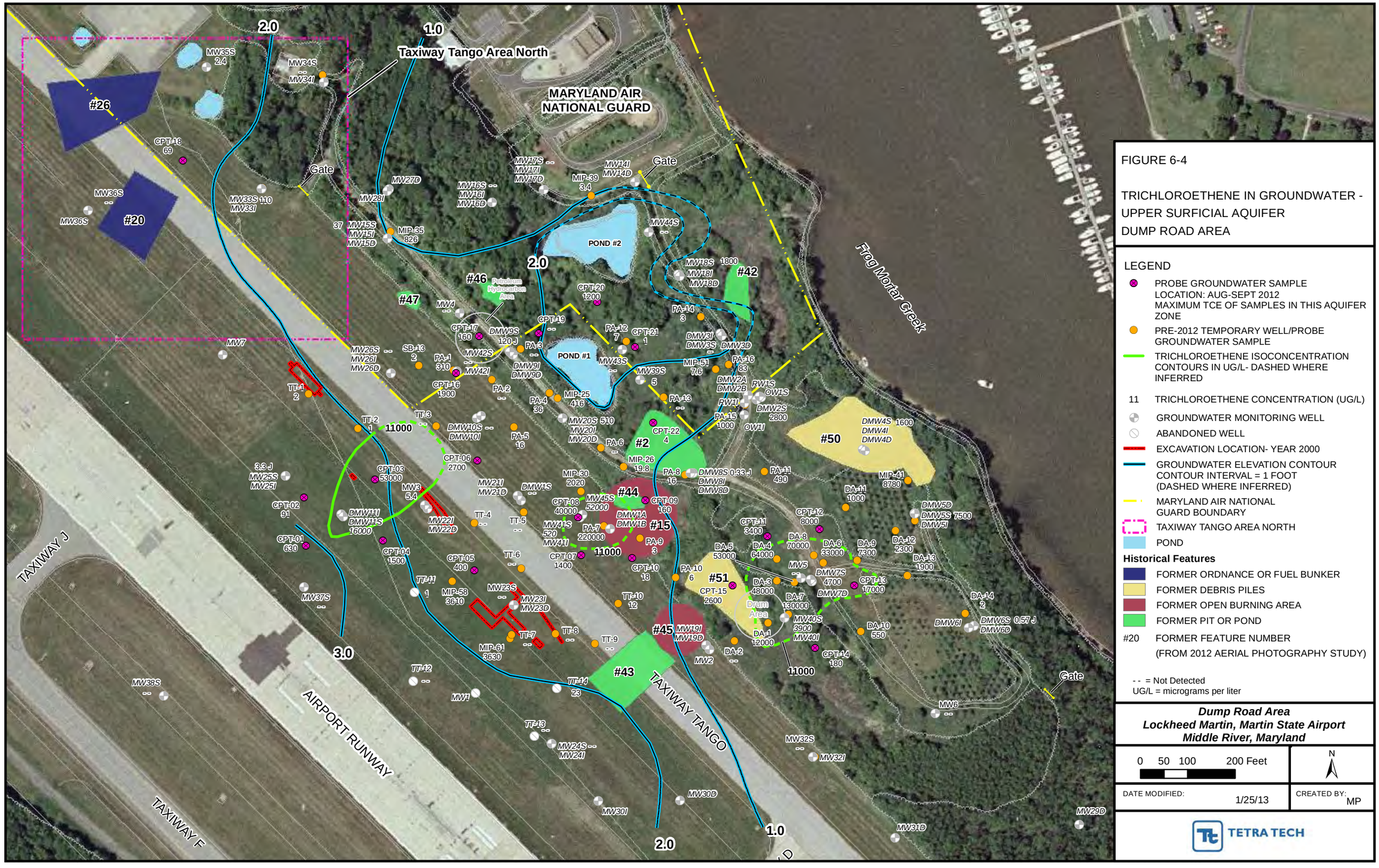

FIGURE 6-4

TRICHLOROETHENE IN GROUNDWATER - UPPER SURFICIAL AQUIFER
DUMP ROAD AREA

LEGEND

- PROBE GROUNDWATER SAMPLE LOCATION: AUG-SEPT 2012 MAXIMUM TCE OF SAMPLES IN THIS AQUIFER ZONE
- PRE-2012 TEMPORARY WELL/PROBE GROUNDWATER SAMPLE
- TRICHLOROETHENE ISOCONCENTRATION CONTOURS IN UG/L- DASHED WHERE INFERRED
- 11 TRICHLOROETHENE CONCENTRATION (UG/L)
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- EXCAVATION LOCATION- YEAR 2000
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 1 FOOT (DASHED WHERE INFERRED)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- TAXIWAY TANGO AREA NORTH
- POND

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

-- = Not Detected
UG/L = micrograms per liter

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

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Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA TCE GW I_wells 2012.mxd)
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FIGURE 6-5

TRICHLOROETHENE IN GROUNDWATER - INTERMEDIATE SURFICIAL AQUIFER DUMP ROAD AREA

LEGEND

- PROBE GROUNDWATER SAMPLE LOCATION: AUG-SEPT 2012 MAXIMUM TCE OF SAMPLES IN THIS AQUIFER ZONE
- PRE-2012 TEMPORARY WELL/PROBE GROUNDWATER SAMPLE
- TRICHLOROETHENE ISOCONCENTRATION CONTOUR IN UG/L - DASHED WHERE INFERRED
- 11 TRICHLOROETHENE CONCENTRATION (UG/L)
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- EXCAVATION LOCATION- YEAR 2000
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 0.5 FOOT (DASHED WHERE INFERRED)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- TAXIWAY TANGO AREA NORTH
- POND

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

-- = Not Detected
UG/L = micrograms per liter

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

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FIGURE 6-6

TRICHLOROETHENE IN GROUNDWATER - LOWER SURFICIAL AQUIFER
DUMP ROAD AREA

LEGEND

- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- 11 TRICHLOROETHENE CONCENTRATION (UG/L)
- EXCAVATION LOCATION- YEAR 2000
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 0.5 FOOT (DASHED WHERE INFERRED)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- TAXIWAY TANGO AREA NORTH
- POND

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

-- = Not Detected
UG/L = micrograms per liter

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

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2/7/2013 -- 1:39:42 PM



FIGURE 6-7

CROSS - SECTION LOCATIONS
DUMP ROAD AREA

LEGEND

- PROBE GROUNDWATER SAMPLE LOCATION: AUG-SEPT 2012 MAXIMUM TCE OF SAMPLES IN THIS AQUIFER ZONE
- SOIL OR POND SEDIMENT SAMPLE
- TRICHLOROETHENE ISOCONCENTRATION CONTOURS IN UG/KG
- INFERRED
- 11 TRICHLOROETHENE CONCENTRATION (UG/KG)
- ABANDONED WELL
- GROUNDWATER MONITORING WELL
- A A' CROSS SECTION TRANSECT
- EXCAVATION LOCATION- YEAR 2000
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- TAXIWAY TANGO AREA NORTH
- POND

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

- - = Not Detected
UG/KG = micrograms per kilogram
TT= Taxiway Tango
TP= test pit
SB= subsufrace soil
SS= soil sample
DR= Dump Road

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 45 90 180 Feet

N

DATE MODIFIED: 2/7/13

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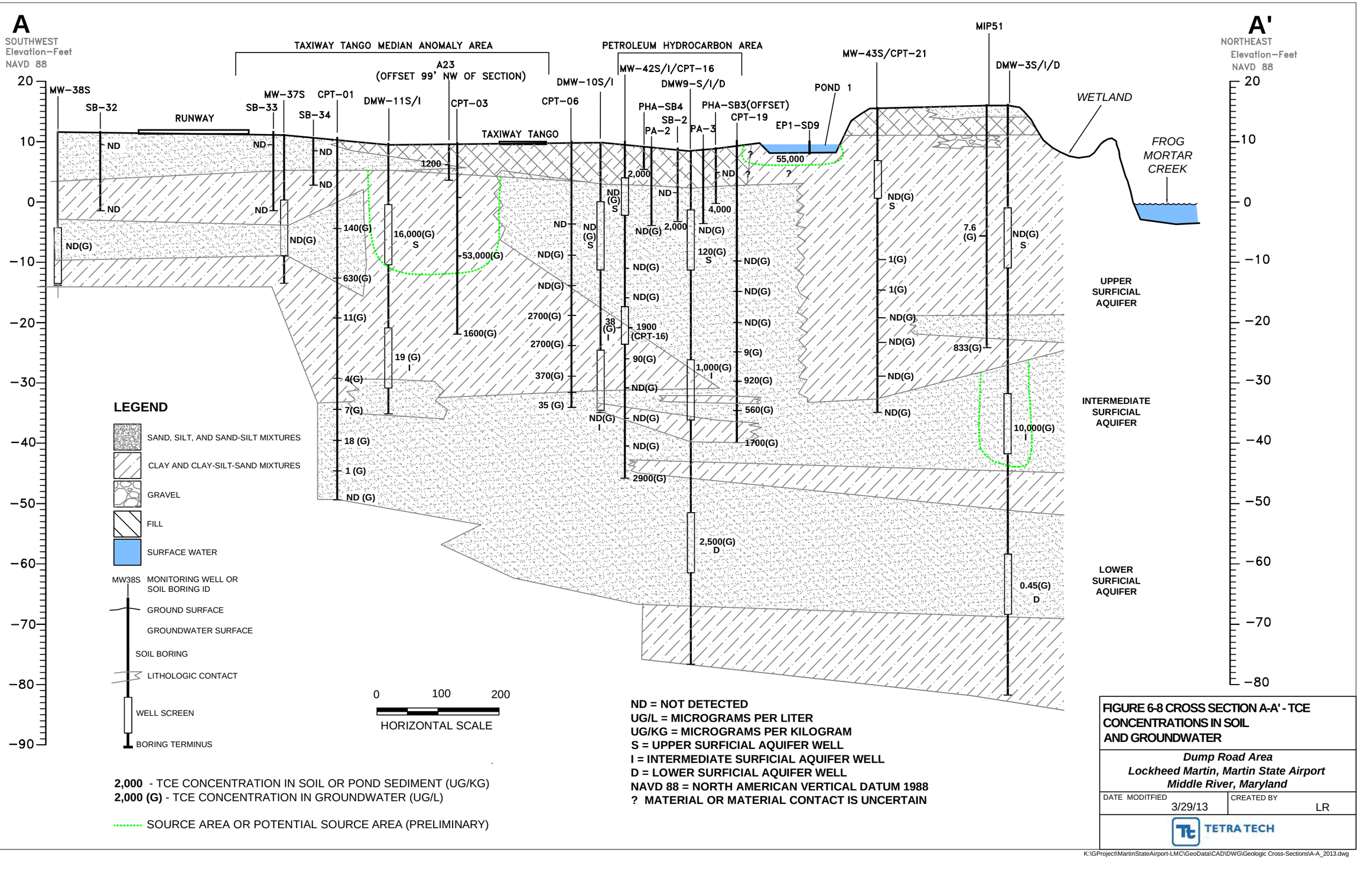

2,000 - TCE CONCENTRATION IN SOIL OR POND SEDIMENT (UG/KG)
2,000 (G) - TCE CONCENTRATION IN GROUNDWATER (UG/L)

SOURCE AREA OR POTENTIAL SOURCE AREA (PRELIMINARY)

ND = NOT DETECTED
UG/L = MICROGRAMS PER LITER
UG/KG = MICROGRAMS PER KILOGRAM
S = UPPER SURFICIAL AQUIFER WELL
I = INTERMEDIATE SURFICIAL AQUIFER WELL
D = LOWER SURFICIAL AQUIFER WELL
NAVD 88 = NORTH AMERICAN VERTICAL DATUM 1988
? MATERIAL OR MATERIAL CONTACT IS UNCERTAIN

FIGURE 6-8 CROSS SECTION A-A' - TCE CONCENTRATIONS IN SOIL AND GROUNDWATER

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

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3/29/13	LR

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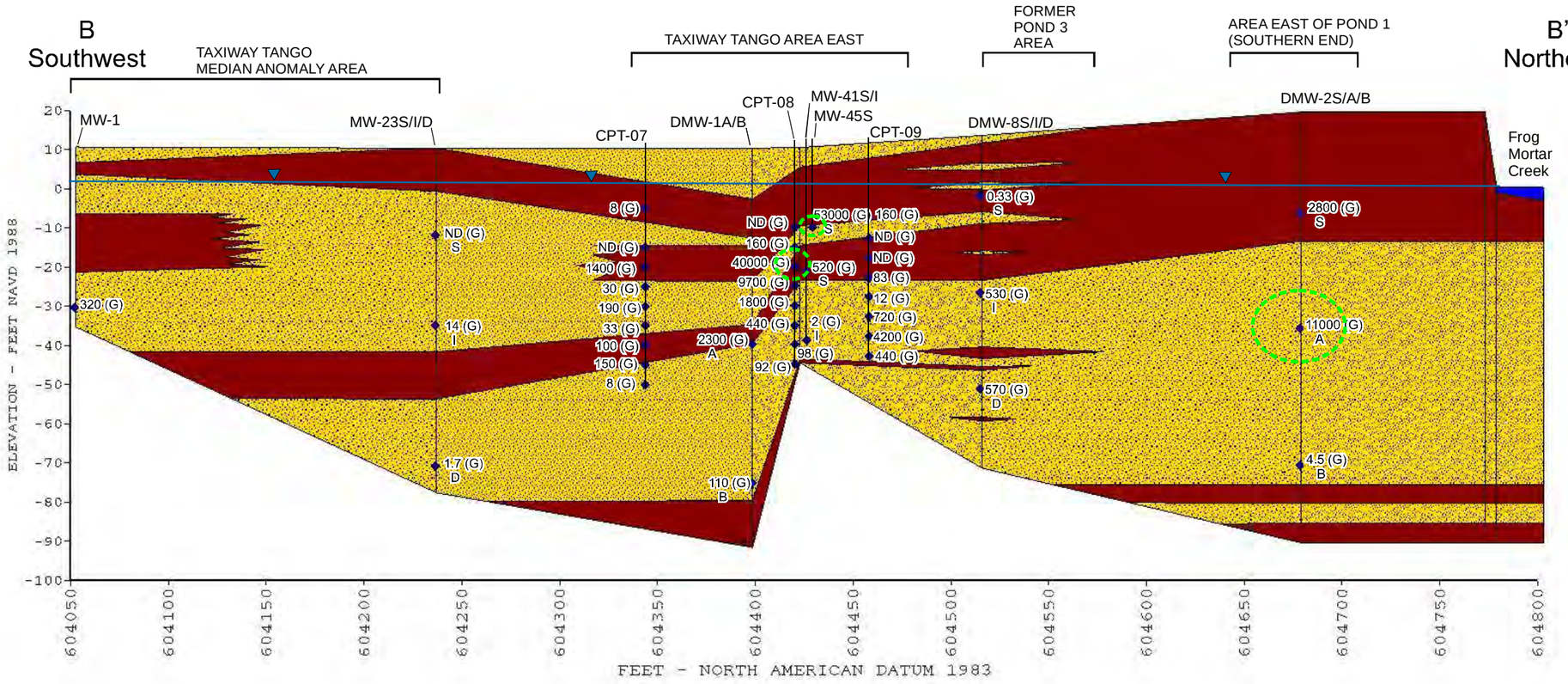

FIGURE 6-9

CROSS SECTION B-B'
TCE CONCENTRATIONS IN
SOIL AND GROUNDWATER

LEGEND

- GROUNDWATER SAMPLE
- 720 (G) — TCE CONCENTRATION IN GROUNDWATER (UG/L)
- 60 — TCE CONCENTRATION IN SOIL (UG/KG)
- SAND, SILT, AND SAND-SILT MIXTURES
- CLAY AND CLAY-SILT-SAND MIXTURES
- WATER
- GROUNDWATER SURFACE
- TCE SOURCE AREA OR POTENTIAL SOURCE AREA
- G = GROUNDWATER SAMPLE
- S = UPPER SURFICIAL AQUIFER WELL
- A or I = INTERMEDIATE SURFICIAL AQUIFER WELL
- B or D = LOWER SURFICIAL AQUIFER WELL
- MW OR DMW = MONITORING WELL
- NAVD = NORTH AMERICAN VERTICAL DATUM
- CPT = CONE PENETRATION TEST
- TCE = TRICHLOROETHENE
- ND = NOT DETECTED
- UG/L = MICROGRAMS PER LITER
- UG/KG = MICROGRAMS PER KILOGRAM

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
2/08/13	MP

TETRA TECH

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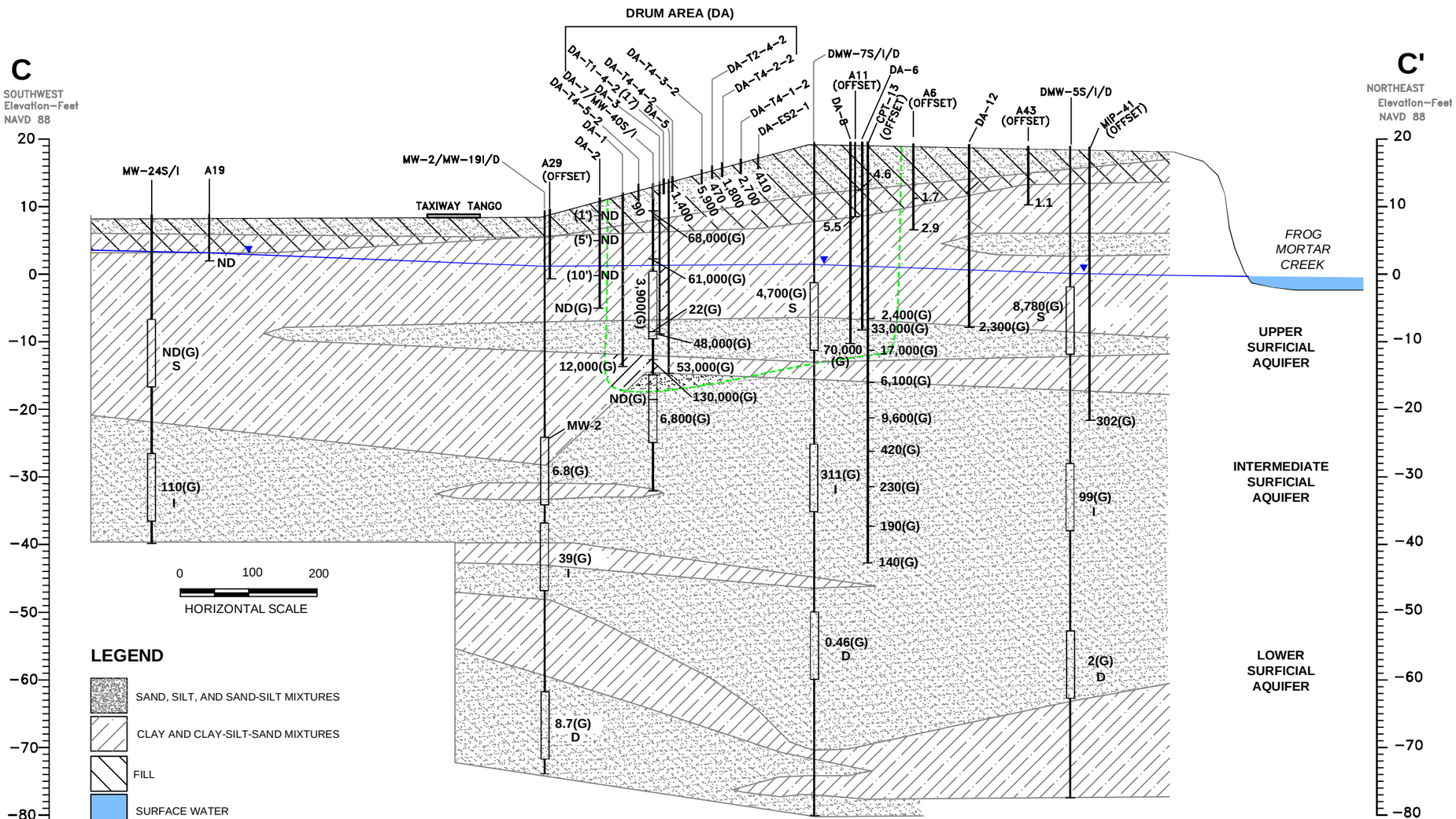

LEGEND

- SAND, SILT, AND SAND-SILT MIXTURES
- CLAY AND CLAY-SILT-SAND MIXTURES
- FILL
- SURFACE WATER

MW38S MONITORING WELL OR SOIL BORING ID
GROUND SURFACE
GROUNDWATER SURFACE
SOIL BORING
LITHOLOGIC CONTACT (DASHED WHERE INFERRED)
WELL SCREEN
BORING TERMINUS

2,000 - TCE CONCENTRATION IN SOIL OR POND SEDIMENT (UG/KG)
2,000 (G) - TCE CONCENTRATION IN GROUNDWATER (UG/L)

---- SOURCE AREA OR POTENTIAL SOURCE AREA (PRELIMINARY)

ND = NOT DETECTED
UG/L = MICROGRAMS PER LITER
UG/KG = MICROGRAMS PER KILOGRAM
A11 = TEST PIT
DA-2 = SOIL BORING
S = UPPER SURFICIAL AQUIFER WELL
I = INTERMEDIATE SURFICIAL AQUIFER WELL
D = LOWER SURFICIAL AQUIFER WELL
NAVD 88 = NORTH AMERICAN VERTICAL DATUM 1988

FIGURE 6-10 CROSS SECTION C-C' - TCE CONCENTRATIONS IN SOIL AND GROUNDWATER

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

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2/5/13	LR

TETRA TECH

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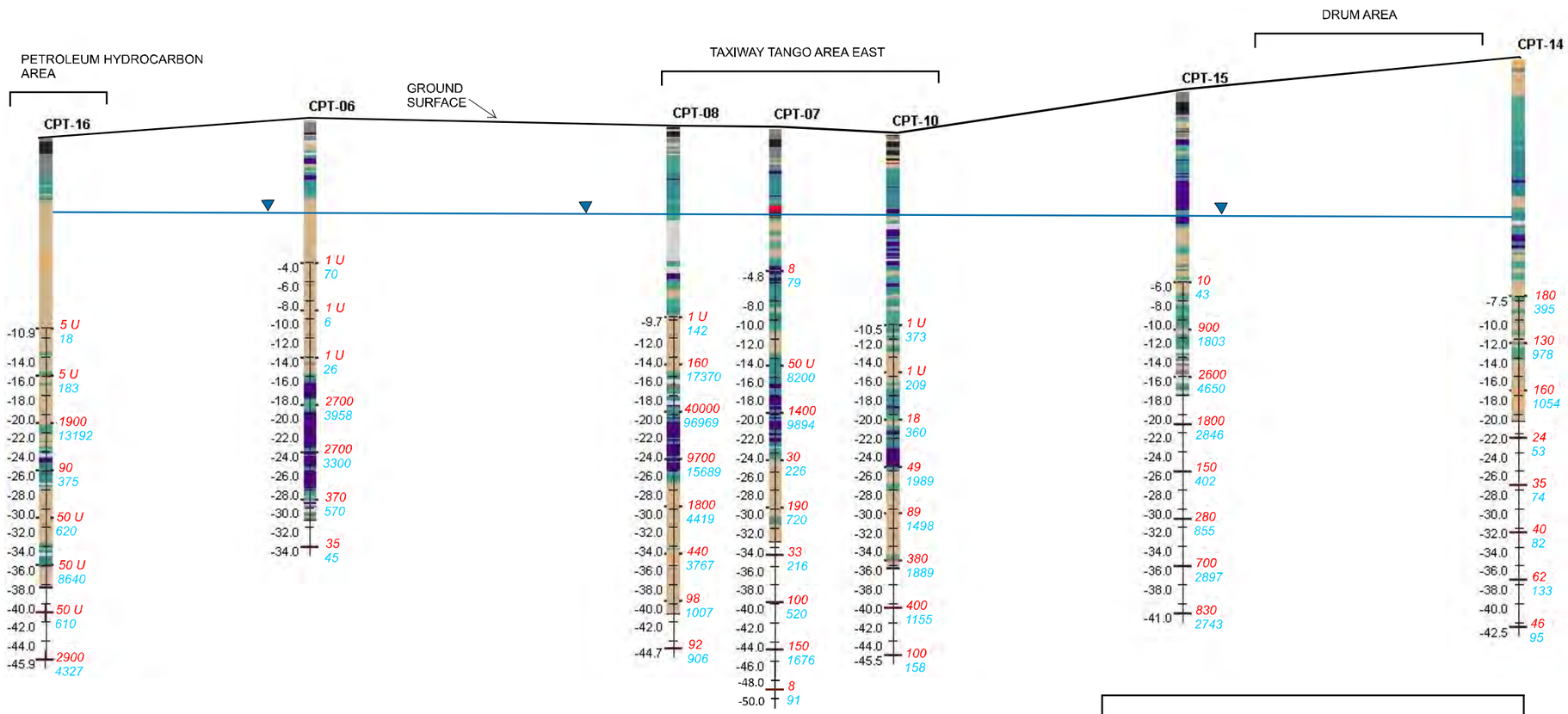
D
Northwest

D'
Southeast



0 80 160 FEET
HORIZONTAL SCALE (APPROXIMATE)

Soil Boring Key

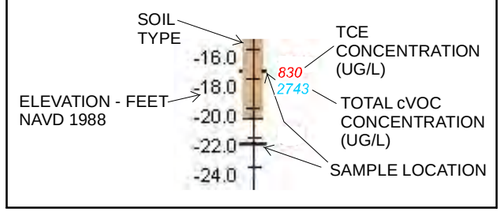


FIGURE 6-11

CROSS SECTION D-D'- TCE AND TOTAL CVOC CONCENTRATIONS IN GROUNDWATER

LEGEND

CPT LOG SOIL TYPE

- UNDEFINED
- SENSITIVE FINE GRAINED
- ORGANIC MATERIAL
- CLAY TO SILTY CLAY
- CLAYEY SILT TO SILTY CLAY
- SILTY SAND TO SANDY SILT
- CLEAN SANDS TO SILTY SANDS
- GRAVELLY SAND TO SAND
- VERY STIFF SAND TO CLAYEY SAND
- VERY STIFF FINE GRAINED

CPT-08 CPT BORING NUMBER

GROUNDWATER SURFACE

U NOT DETECTED AT CONCENTRATION IN UG/L SHOWN LEFT OF THE LETTER

cVOC= CHLORINATED VOLATILE ORGANIC COMPOUND. MAY INCLUDE DETECTED TETRACHLOROETHENE, TRICHLOROETHENE, 1,1-DICHLOROETHENE, CIS-1,2-DICHLOROETHENE, TRANS-1,2-DICHLOROETHENE, VINYL CHLORIDE, 1,1,1-TRICHLOROETHANE, 1,1,2-TRICHLOROETHANE, 1,1-DICHLOROETHANE, 1,2-DICHLOROETHANE, CHLOROETHANE, AND CHLOROFORM.

NAVD = NORTH AMERICAN VERTICAL DATUM
TCE = TRICHLOROETHENE
UG/L = MICROGRAMS PER LITER

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

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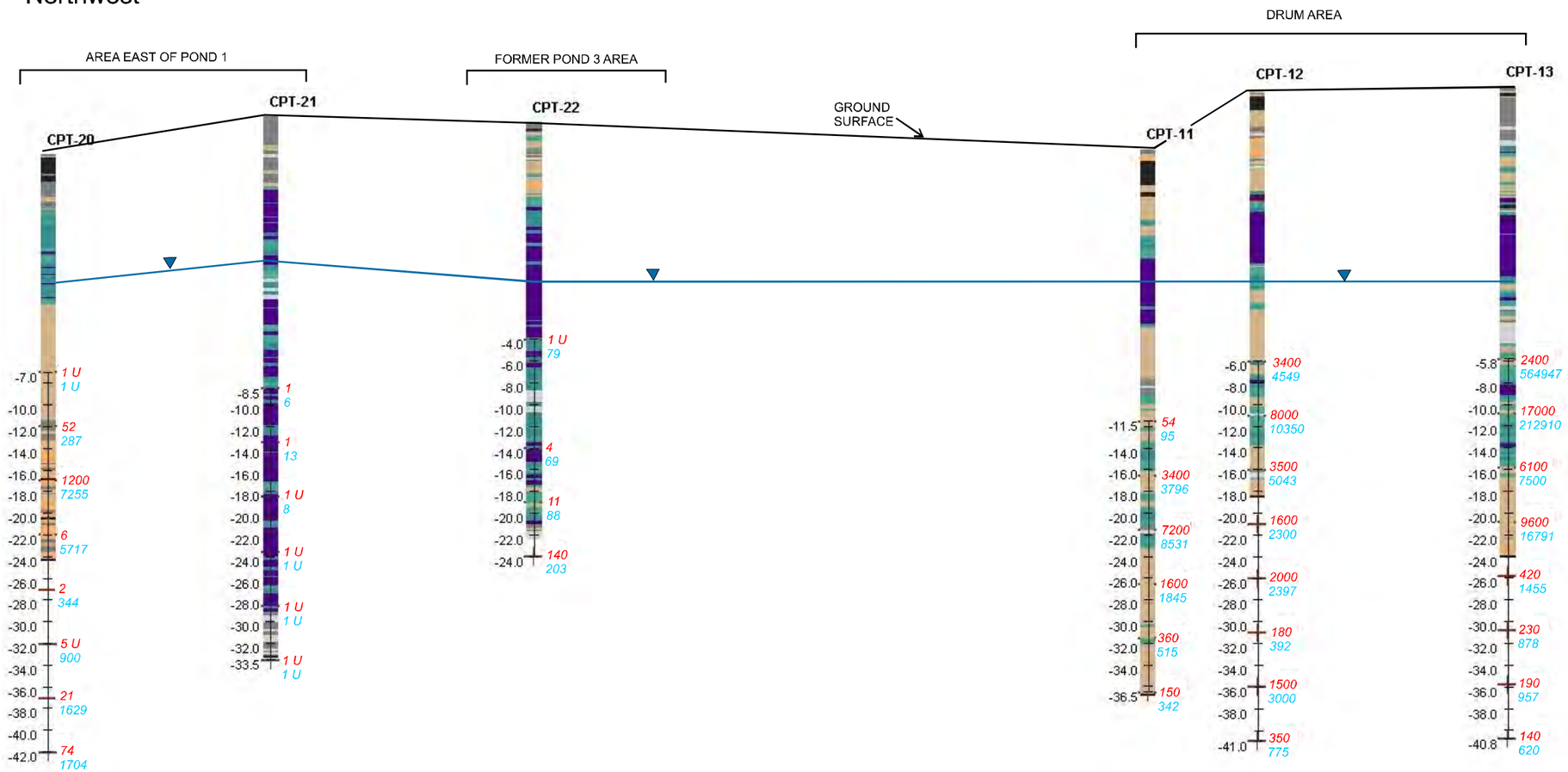
E
Northwest

E'
Southeast



Soil Boring Key

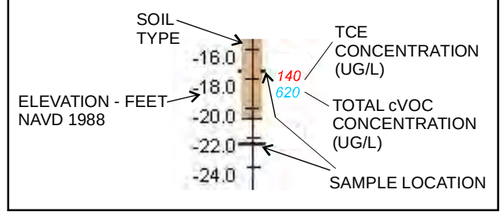


FIGURE 6-12

CROSS SECTION E-E'-TCE AND TOTAL CVOC CONCENTRATIONS IN GROUNDWATER

LEGEND

CPT LOG SOIL TYPE

- UNDEFINED
- SENSITIVE FINE GRAINED
- ORGANIC MATERIAL
- CLAY TO SILTY CLAY
- CLAYEY SILT TO SILTY CLAY
- SILTY SAND TO SANDY SILT
- CLEAN SANDS TO SILTY SANDS
- GRAVELLY SAND TO SAND
- VERY STIFF SAND TO CLAYEY SAND
- VERY STIFF FINE GRAINED

CPT-21 CPT BORING NUMBER

GROUNDWATER SURFACE

U NOT DETECTED AT CONCENTRATION IN UG/L SHOWN LEFT OF THE LETTER

cVOC= CHLORINATED VOLATILE ORGANIC COMPOUND. MAY INCLUDE DETECTED TETRACHLOROETHENE, TRICHLOROETHENE, 1,1-DICHLOROETHENE, CIS-1,2-DICHLOROETHENE, TRANS-1,2-DICHLOROETHENE, VINYL CHLORIDE, 1,1,1-TRICHLOROETHANE, 1,1,2-TRICHLOROETHANE, 1,1-DICHLOROETHENE, 1,2-DICHLOROETHANE, CHLOROETHANE, AND CHLOROFORM.

NAVD = NORTH AMERICAN VERTICAL DATUM
TCE = TRICHLOROETHENE
UG/L = MICROGRAMS PER LITER

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
3/28/13	MP

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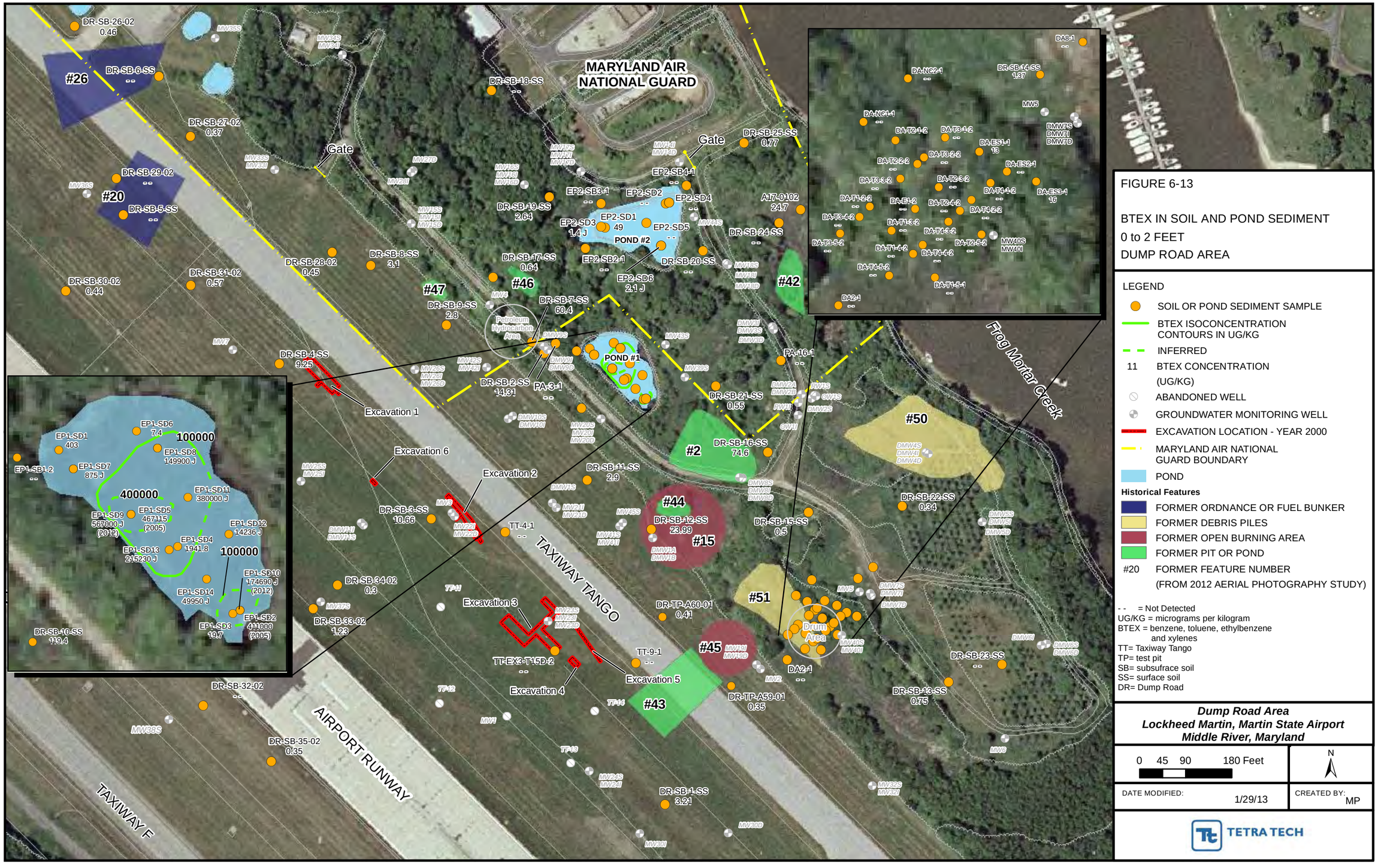

FIGURE 6-13

BTEX IN SOIL AND POND SEDIMENT
0 to 2 FEET
DUMP ROAD AREA

LEGEND

- SOIL OR POND SEDIMENT SAMPLE
- BTEX ISOCONCENTRATION CONTOURS IN UG/KG
- INFERRED
- 11 BTEX CONCENTRATION (UG/KG)
- ABANDONED WELL
- GROUNDWATER MONITORING WELL
- EXCAVATION LOCATION - YEAR 2000
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

- - = Not Detected
UG/KG = micrograms per kilogram
BTEX = benzene, toluene, ethylbenzene and xylenes
TT= Taxiway Tango
TP= test pit
SB= subsufrace soil
SS= surface soil
DR= Dump Road

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 45 90 180 Feet

N

DATE MODIFIED: 1/29/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA BTEX in Soils_GT2 TO 15 FT_032712_revised013013.mxd)
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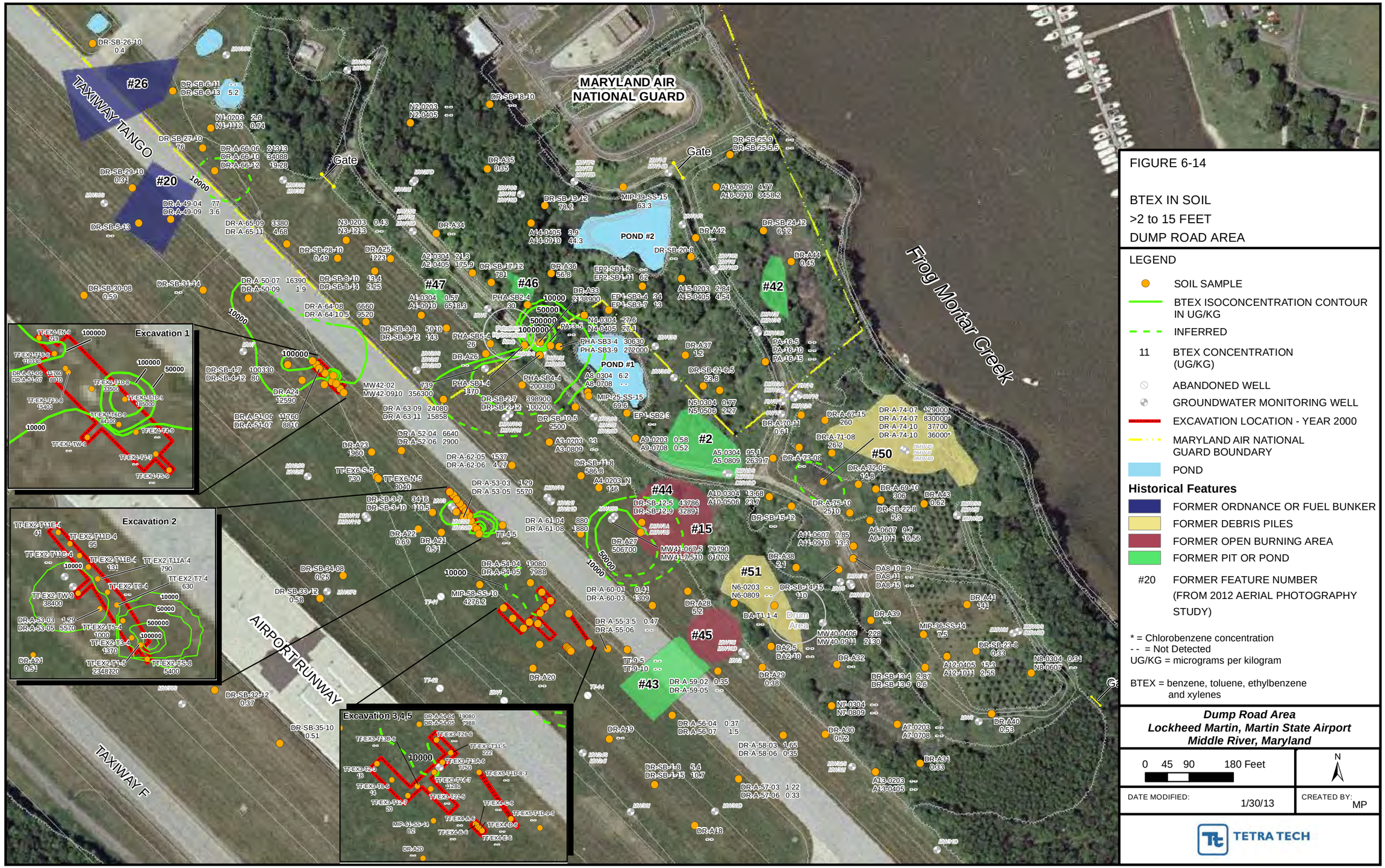

FIGURE 6-14

BTEX IN SOIL
>2 to 15 FEET
DUMP ROAD AREA

LEGEND

- SOIL SAMPLE
- BTEX ISOCONCENTRATION CONTOUR IN UG/KG
- INFERRED
- 11 BTEX CONCENTRATION (UG/KG)
- ABANDONED WELL
- GROUNDWATER MONITORING WELL
- EXCAVATION LOCATION - YEAR 2000
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

* = Chlorobenzene concentration
- - = Not Detected
UG/KG = micrograms per kilogram

BTEX = benzene, toluene, ethylbenzene and xylenes

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 45 90 180 Feet

N

DATE MODIFIED: 1/30/13

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Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA BTEX in GW S_wells 2012.mxd)
1/24/2013 -- 4:36:43 PM



FIGURE 6-16

BTEX IN GROUNDWATER -
UPPER SURFICIAL AQUIFER
DUMP ROAD AREA

LEGEND

- PROBE GROUNDWATER SAMPLE LOCATION: AUG-SEPT 2012 MAXIMUM BTEX OF SAMPLES IN THIS AQUIFER ZONE
- PRE- 2012 TEMPORARY WELL/PROBE GROUNDWATER SAMPLE
- BTEX ISOCONCENTRATION CONTOUR IN UG/L
- 11 BTEX CONCENTRATION (UG/L)
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- EXCAVATION LOCATION - YEAR 2000
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 1 FOOT (DASHED WHERE INFERRED)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

* = Chlorobenzene concentration
- - = Not Detected
UG/L = micrograms per liter
BTEX = benzene, toluene, ethylbenzene and xylenes

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

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FIGURE 6-17

BTEX IN GROUNDWATER - INTERMEDIATE SURFICIAL AQUIFER DUMP ROAD AREA

LEGEND

- PROBE GROUNDWATER SAMPLE LOCATION: AUG-SEPT 2012 MAXIMUM BTEX OF SAMPLES IN THIS AQUIFER ZONE
- PRE- 2012 TEMPORARY WELL/PROBE GROUNDWATER SAMPLE
- BTEX ISOCONCENTRATION CONTOUR IN UG/L
- 11 BTEX CONCENTRATION (UG/L)
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- EXCAVATION LOCATION - YEAR 2000
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 0.5 FOOT (DASHED WHERE INFERRED)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

-- = Not Detected
UG/L = micrograms per liter
BTEX = benzene, toluene, ethylbenzene and xylenes

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 1/25/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA BTEX in GW D_wells 032912_revised020813.mxd)
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FIGURE 6-18

BTEX IN GROUNDWATER -
LOWER SURFICIAL AQUIFER
DUMP ROAD AREA

LEGEND

- 11 BTEX CONCENTRATION (UG/L)
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- EXCAVATION LOCATION - YEAR 2000
- GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 0.5 FOOT
  (DASHED WHERE INFERRED)
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Historical Features

entity_id

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER
  (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

- - = Not Detected
UG/L = micrograms per liter
BTEX = benzene, toluene, ethylbenzene and xylenes

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 2/8/13

CREATED BY: MP

TETRA TECH

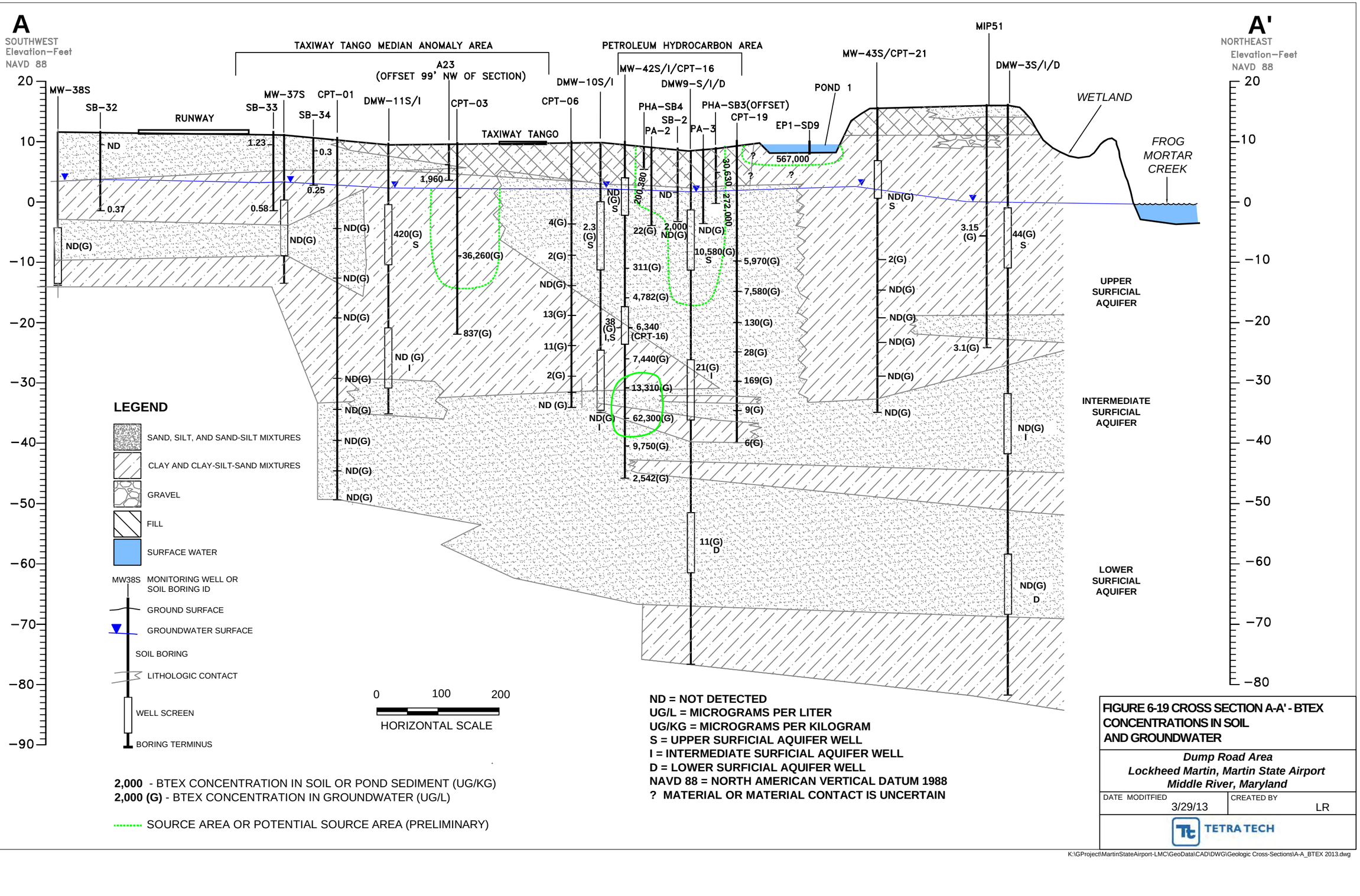

FIGURE 6-19 CROSS SECTION A-A' - BTEX CONCENTRATIONS IN SOIL AND GROUNDWATER

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

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3/29/13	LR

TETRA TECH

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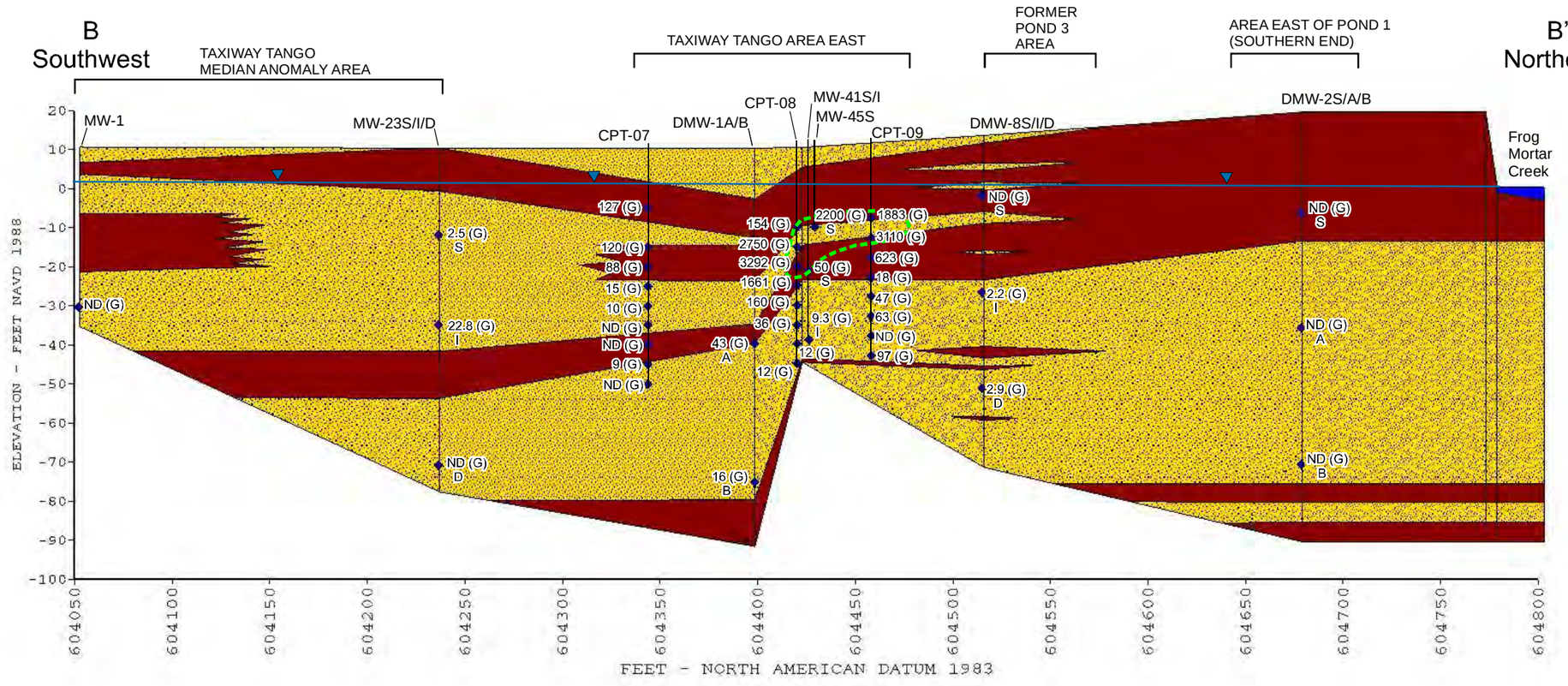

FIGURE 6-20

CROSS SECTION B-B'
BTEX CONCENTRATIONS IN
SOIL AND GROUNDWATER

LEGEND

- GROUNDWATER SAMPLE
- 720 (G) BTEX CONCENTRATION IN GROUNDWATER (UG/L)
- 60 BTEX CONCENTRATION IN SOIL (UG/KG)
- SAND, SILT, AND SAND-SILT MIXTURES
- CLAY AND CLAY-SILT-SAND MIXTURES
- WATER
- GROUNDWATER SURFACE
- BTEX SOURCE AREA OR POTENTIAL SOURCE AREA
- G = GROUNDWATER SAMPLE
- S = UPPER SURFICIAL AQUIFER WELL
- A or I = INTERMEDIATE SURFICIAL AQUIFER WELL
- B or D = LOWER SURFICIAL AQUIFER WELL
- MW OR DMW = MONITORING WELL
- NAVD = NORTH AMERICAN VERTICAL DATUM
- CPT = CONE PENETRATION TEST
- TCE = TRICHLOROETHENE
- ND = NOT DETECTED
- UG/L = MICROGRAMS PER LITER
- UG/KG = MICROGRAMS PER KILOGRAM

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

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2/08/13	MP

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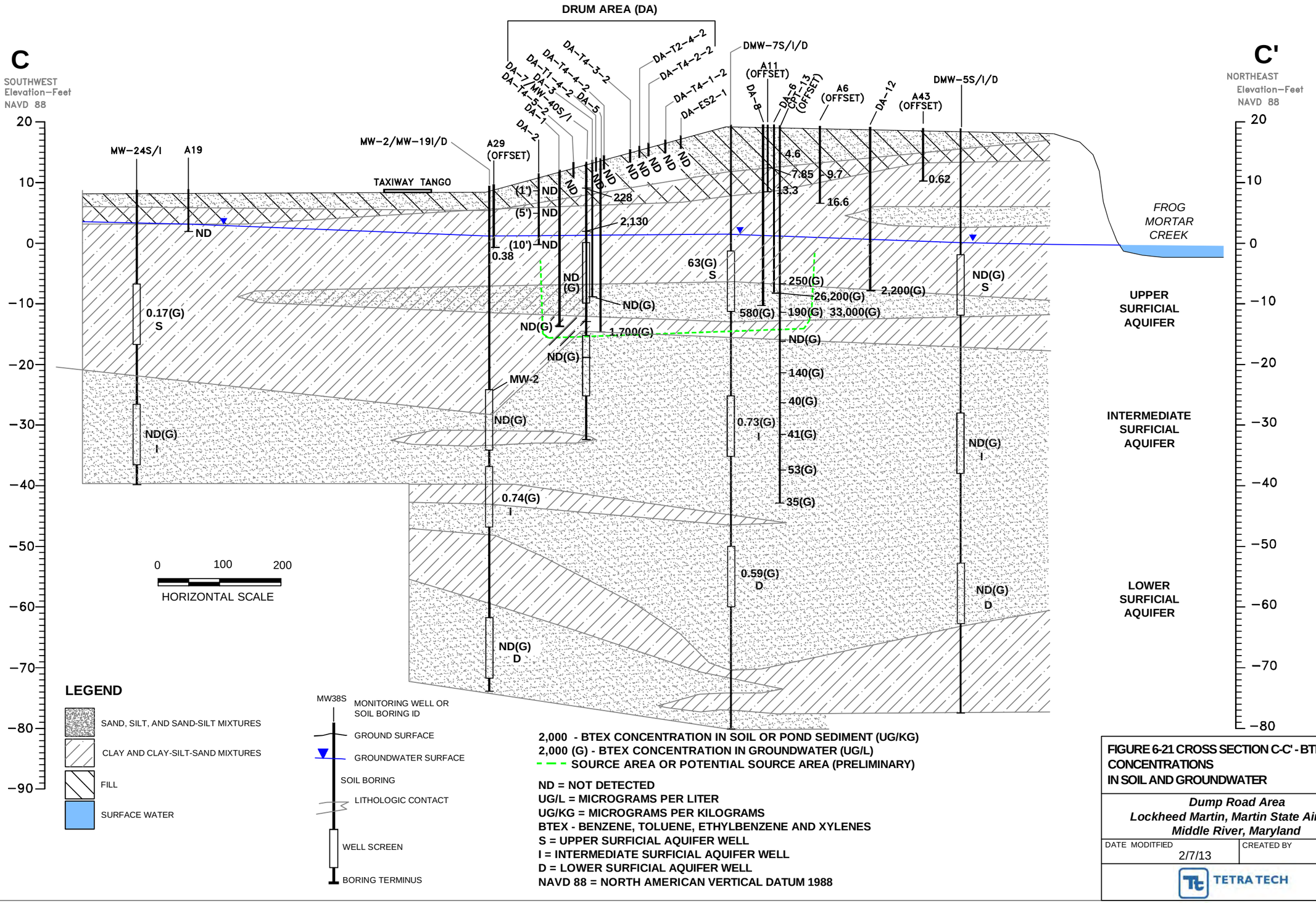

2,000 - BTEX CONCENTRATION IN SOIL OR POND SEDIMENT (UG/KG)
2,000 (G) - BTEX CONCENTRATION IN GROUNDWATER (UG/L)
- - - SOURCE AREA OR POTENTIAL SOURCE AREA (PRELIMINARY)

ND = NOT DETECTED
UG/L = MICROGRAMS PER LITER
UG/KG = MICROGRAMS PER KILOGRAMS
BTEX - BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES
S = UPPER SURFICIAL AQUIFER WELL
I = INTERMEDIATE SURFICIAL AQUIFER WELL
D = LOWER SURFICIAL AQUIFER WELL
NAVD 88 = NORTH AMERICAN VERTICAL DATUM 1988

FIGURE 6-21 CROSS SECTION C-C' - BTEX CONCENTRATIONS IN SOIL AND GROUNDWATER

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

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Section 7
Summary

The 2012 Dump Road Area (DRA) field program included the following activities:

- use of a cone-penetrometer (CPT) drill rig fitted with a piezocone to collect continuous lithologic and pore water pressure data to a depth up to 60 feet below grade at 22 locations around volatile organic compound (VOC) source areas or possible volatile organic compound source areas

- use of a direct-push technology (DPT) drill rig to collect discrete groundwater samples for volatile organic compound analysis, typically at five-foot intervals, to a depth of up to 60 feet below grade at 22 locations

- installation of seven groundwater monitoring wells and collection of 13 soil samples during drilling

- installation of two pond stilling wells and two shallow groundwater monitoring wells to characterize the hydraulic interconnectivity of surface water in Ponds 1 and 2 and shallow groundwater

- collection of one month of water level data from the two new shallow groundwater monitoring wells and the two new pond stilling wells

- collection of water samples from the nine new groundwater monitoring wells and two new pond stilling wells

- collection of eight sediment cores from Pond 1 and four sediment cores from Pond 2 to a depth of two feet below the sediment surface; two sediment samples were collected at each core location at depths of 0–1 foot and 1–2 feet

- collection of six surface water samples from Pond 1 and two surface water samples from Pond 2

- laboratory chemical analyses of the soil, groundwater, surface water, and sediment samples

- surveying of nine new groundwater monitoring wells and two stilling wells in Ponds 1 and 2 by a Maryland-licensed surveyor

The cone-penetrometer testing and probe-groundwater sampling results helped define subsurface lithology in three dimensions and volatile organic compound concentrations in groundwater at 22 locations around possible groundwater source-areas at the Dump Road Area. Significant findings of the probe groundwater sampling program are:

- Trichloroethene (TCE) was detected in probe groundwater samples at a maximum concentration of 53,000 micrograms per liter (µg/L) at CPPT-03 (20 feet) in the Taxiway Tango median northeast of well DMW-11S. This concentration indicates the likely presence of dense non-aqueous phase liquids (DNAPL) at or near this sampling depth.

- The second highest concentration of trichloroethene is 40,000 micrograms per liter detected at CPT-08 (30 feet) in Taxiway Tango Area East northwest of wells DMW-1A/B. This concentration also indicates the likely presence of dense non-aqueous phase liquid at or near this sampling depth.

- Only low to moderate concentrations of trichloroethene and other chlorinated volatile organic compounds (cVOCs) were detected at the location of a former disposal pit southeast of Pond 1. However, groundwater samples could not be collected below 40 feet due to probe refusal.

- The highest concentration of *cis*-1,2-dichloroethene is 560,000 micrograms per liter, detected at CPT-13 (25 feet) in the Drum Area (DA) east of wells DMW-7S/I/D.

- Tetrachloroethene (PCE) was detected at concentrations of 770 micrograms per liter (µg/L) at 20 feet at CPT-03 (northeast of wells DMW-11S/I in the Taxiway Tango Median Anomaly Area) and at 200 µg/L at 20 feet deep at CPT-09 (northeast of wells DMW-1A/B in Taxiway Tango Area East).

- The highest combined concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected at CPT-16 (62,300 micrograms per liter [µg/L] at 45 feet), southwest of wells DMW-9S/I/D in the Petroleum Hydrocarbon Area (PHA), and CPT-03 (32,260 µg/L at 20 feet), northeast of wells DMW-11S/I in the Taxiway Tango Median Anomaly Area.

- In samples with high petroleum hydrocarbon concentrations, toluene and/or xylenes comprise most of the petroleum hydrocarbon constituents detected. Toluene is the predominant constituent in high concentration samples from the Taxiway Tango Median Anomaly Area, Taxiway Tango Area East, and the Drum Area (DA). Xylenes are the predominant constituents in high concentration samples from the Petroleum Hydrocarbon Area.

Significant findings of the groundwater level measurement program are as follows:

- Elevated groundwater levels at wells MW-43S, MW-39S, DMW-3S, and MW-44S indicate local groundwater mounding east and northeast of Pond 1 and Pond 2.

- The groundwater elevation configuration of wells MW-39S, MW-43S, and MW-44S indicates that the higher groundwater surface may be partially due to infiltrating water from Pond 1 and Pond 2.

- Pond surface water elevations are generally higher than the water table. Long-term water level data from well MW-44S and Pond 2 indicate that the groundwater elevation in the upper surficial aquifer near Pond 2 may have temporarily exceeded that of Pond 2 during heavy rainfall at the end of October.

Soil samples, monitoring-well groundwater samples, pond surface water samples, and pond sediment samples were screened against chemical-specific criteria to gauge the degree of observed contamination relative to regulatory standards/criteria, to assess potential adverse effects on human health or the environment, and to evaluate the need for further sampling or remedial action. Soil and groundwater results were screened against the Maryland Department of the Environment (MDE) cleanup standards for soil and groundwater. Surface water results were screened against the United States Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) freshwater screening benchmarks. Sediment results were compared against USEPA Regional Screening Levels (RSL) for soil, using an order of magnitude adjustment (i.e., by 10 times) to account for less frequent human exposure to sediment than to soil. Sediment results were also compared to the USEPA Region 3 BTAG sediment screening benchmarks, ecological toxicity levels, and the National Oceanic and Atmospheric Administration (NOAA) screening quick-reference tables.

Significant findings of the soil, groundwater monitoring well, and pond sampling program include:

- Trichloroethene was detected at elevated concentrations of 68,000 and 61,000 micrograms per kilogram (µg/kg) in soil samples collected at depths of four- to six-feet and nine- to 11-feet, respectively, from well MW-40S/I in the southeastern portion of the Drum Area.

- Trichloroethene was detected in groundwater at an elevated concentration of 53,000 micrograms per liter in new well MW-45S in Taxiway Tango Area East, northwest of wells DMW-1A/B. This concentration indicates the likely presence of dense non-aqueous-phase liquid at or near this well.

- Low concentrations of toluene (six samples), carbon disulfide (three samples), and acetone (six samples) were detected in the Pond 1 surface water samples. Concentrations of each volatile organic compound are similar at each sampling location, with slightly higher estimated toluene concentrations at EP1-SW12 (0.28 micrograms per liter]) and EP1-SW9 (0.26 µg/L). Concentrations of several metals (total and dissolved barium, total

cadmium, total chromium, and total mercury) in Pond 1 surface water exceed the ecological screening criteria used for this study.

- Volatile organic compounds were not detected in Pond 2 surface water samples, and only low concentrations of a few volatile organic compounds were detected in Pond 2 sediment samples, indicating that Pond 2 water and sediment are not sources for volatile organic compounds. However, concentrations of several metals in Pond 2 surface water and sediment exceed the ecological screening criteria used for this study.

- The maximum 2012 trichloroethene concentration (55,000 micrograms per kilogram [µg/kg]) and the presence of a TCE degradation product (19,000 µg/kg of *cis*-1,2-dichloroethene) in Pond 1 sediment sample EP1-SD9 indicate that TCE may have degraded, resulting in lower levels than detected in Pond 1 sediment in 2005 (270,000 µg/kg). Alternatively, these results may indicate that areas of higher TCE were not sampled in 2012.

- Elevated levels of chlorinated volatile organic compounds in Pond 1 sediment appear to be limited to a smaller area of the pond, near locations EP1-SD9 and EP1-SD13 along the western shoreline in the central portion of the pond.

- Petroleum volatile organic compounds are at higher concentrations and are more widespread in Pond 1 sediment than chlorinated volatile organic compounds.

- The highest concentrations of petroleum volatile organic compounds in Pond 1 sediment are in samples EP1-SD9, EP1-SD11, and EP1-SD13, collected at depths of one to two feet in the central portion of the pond.

- The highest concentrations of both chlorinated and petroleum volatile organic compounds in Pond 1 sediment were detected in the deeper (1–2 foot) samples.

- Concentrations of polychlorinated biphenyls (PCBs), arsenic, barium, cadmium, chromium, lead, mercury, and silver in Pond 1 sediment exceed ecological screening levels. PCBs, arsenic, cadmium, chromium, and lead concentrations also exceed human health screening levels. The highest PCB and metal concentrations are in the deeper 1–2 foot samples. Chromium and other metals and PCBs are highest in the north–central portion of the pond at EP1-SD7, EP1-SD8, EP1-SD11, and EP1-S13.

- Higher concentrations of volatile organic compounds, polychlorinated biphenyls, and metals in the Pond 1 one-to-two-foot sediment samples indicate that these constituents may be at elevated concentrations in sediment below two feet. Sediment samples were limited to a depth of two feet to avoid puncturing any existing low-permeability confining layer at the base of the pond.

- Lithologic logs for CPT-21, MW-43S, and MW-39S indicate thick clay in the subsurface downgradient of Pond 1. Although groundwater elevation contours suggest that water from Pond 1 may be infiltrating to the subsurface, the presence of organic matter in the pond sediments and a possible clay layer underlying the pond likely inhibit movement of VOCs to groundwater. This is supported by groundwater sampling results for CPT-21,

which has a trichloroethene concentration of one microgram per liter (µg/L) (most other samples are non-detect), for MW-43S (trichloroethene not detected), and for MW-39S (trichloroethene at 5 µg/L), all of which are hydraulically downgradient of Pond 1.

The 2012 sampling results are used in this study along with historical data to evaluate the occurrence and distribution of major chlorinated and aromatic volatile organic compounds that have been detected in various environmental media at the Dump Road Area. Evaluating current and historical data identifies, characterizes, and spatially delineates the source areas or possible source areas of these compounds. Early environmental investigations (from 1991–1996) identified four areas of concern:

- Taxiway Tango Median Anomaly Area
- Drum Area
- Pond 1 and Pond 2
- Petroleum Hydrocarbon Area

Soil- and groundwater-chemical analytical results were also evaluated to identify possible areas of trichloroethene dense non-aqueous-phase liquids; these free-product sources can remain in the subsurface for long periods and provide a continuous source for dissolved-phase groundwater plumes.

A saturation-threshold concentration (C_D) and partitioning-threshold concentration (C^T) were calculated to evaluate soil and sediment sampling results for the presence of dense non-aqueous phase liquids (DNAPL). A saturation threshold concentration of 9,188,000 micrograms per kilogram (µg/kg), a partitioning threshold concentration of 515,000 µg/kg for vadose-zone soil samples, and a 535,000 µg/kg threshold concentration for soil in groundwater or saturated pond sediment were computed for this study using typical soil and chemical characteristics available in the scientific literature. Detection of trichloroethene in soil at a concentration greater than 9,188,000 µg/kg was considered conclusive evidence of DNAPL in soil. A trichloroethene concentration above 515,000 µg/kg, or above 535,000 µg/kg, would indicate the possible presence of DNAPL in unsaturated or saturated soil zones, respectively.

A threshold screening concentration of 11,000 micrograms per liter (µg/L) was used to screen groundwater sampling results for trichloroethene; i.e., if concentrations were above this value, residual dense non-aqueous-phase liquids (DNAPL) were likely present. Groundwater dense non-aqueous phase liquids can act as a continuing source of volatile organic compounds in

groundwater. The groundwater screening concentration is equivalent to one percent of the effective solubility ($C_{i\,[1\%]}$) for trichloroethene in water. Groundwater sample concentrations exceeding one percent trichloroethene solubility in water indicate that the groundwater may have come in contact with DNAPL (Kueper and Davies, 2009). Historical and current groundwater concentrations at the Dump Road Area site exceed 11,000 µg/L at several locations, indicating DNAPL in the subsurface.

Existing data confirm that all the areas listed above (except for Pond 2) are primary sources for soil, pond sediment, and groundwater contamination. Results of surface water and pond sediment samples from Pond 2 do not indicate this pond as a source for volatile organic compounds at the Dump Road Area. The source area study conducted in 2012 for the Dump Road Area (Appendix A of Tetra Tech, 2012a) identified three additional areas of elevated volatile organic compounds in soil and groundwater requiring further investigation.

The fieldwork discussed in Sections 3 and 4 of this report was designed to gather additional environmental data at the initial and new possible source areas listed below:

- Taxiway Tango Area East (TT East)
- Taxiway Tango Area North (TT North)
- the area east of Pond 1

A 2012 historical aerial photograph and document review (Tetra Tech, 2013a) confirmed the location and use of Pond 1 as an acid and oil pit, and identified other past features, such as debris piles in the Drum Area and an open burning area and open pit in Taxiway Tango Area East. This study also identified other features considered possible chemical source areas, identified in this investigation as follows:

- *former Pond 3*—a pond south of Pond 1—feature #2 in Figure 7-1
- *former Pond 4/open burning area*—features #43 and #45 in Figure 7-1
- *former Ponds 5 and 6*—features #46 and #47 in Figure 7-1
- *former Pond 7*—feature #42 in Figure 7-1; currently a wetland
- *DMW-4/former debris pile area*—feature #51 in Figure 7-1

- *former ammo bunkers*—features #20 and #26 in Figure 7-1 (same area as Taxiway Tango Area North)

- *Taxiway Tango Area South*—former disturbed area: feature #53 in Figure 2-11 of Section 2

The former ammo bunkers (features #20/#26) are in the Taxiway Tango Area North area; feature #51(the former debris piles) is in the Drum Area; and the former open burning area and pit (features #15 and #44) are in Taxiway Tango Area East. These features were therefore combined with the previously identified Taxiway Tango Area North, Drum Area, and Taxiway Tango Area East. These former features/possible source areas are shown in Figures 7-1 and 7-2 and listed in Table 7-1, along with the environmental media affected by trichloroethene and petroleum hydrocarbons (i.e., benzene, toluene, ethylbenzene, and xylenes).

Although light non-aqueous-phase liquids (LNAPL) have been observed at soil borings and test pits (e.g., floating oil sheens, apparent product at or above the water table, etc.), dense non-aqueous-phase liquids (DNAPL) have not been directly observed in soil or groundwater samples collected during drilling and sampling at the Dump Road Area. High photoionization-detector (PID) field readings for subsurface soil samples or odors may be associated with high concentrations of volatile organic compounds, or possibly dense non-aqueous phase liquids, but field screening results or odors alone do not indicate dense non-aqueous phase liquids.

Concentrations of trichloroethene in soil samples are less than the threshold chemical concentrations used to evaluate whether trichloroethene dense non-aqueous phase liquids are present (553,000 micrograms per kilogram [µg/kg] for soil samples in groundwater or saturated pond sediment, and 515,000 µg/kg for vadose zone samples). Results for Pond 1 sediment samples collected in 2000 and 2005 (trichloroethene at 270,000 and 69,000 µg/kg, respectively) indicate that trichloroethene dense non-aqueous phase liquids may have been present in Pond 1 sediment at those times. Sampling results for Pond 1 sediment samples collected in 2012 show lower trichloroethene concentrations, with a maximum of 55,000 µg/kg at EP2-SD9 therefore, dense non-aqueous phase liquids may no longer be present in the bottom sediment or it may be non-uniformly distributed in the sediment.

Alternatively, high concentration areas in Pond 1 may have been missed or not sampled in 2012. High concentrations of total benzene, ethylbenzene, toluene, and xylenes in Pond 1 sediments were detected in 2012, indicating that Pond 1 sediments are a possible groundwater source of volatile aromatic hydrocarbons. However, lithologic logs for CPT-21, MW-43S, and MW-39S indicate thick clay in the subsurface downgradient of Pond 1. Although groundwater elevation contours suggest that water from Pond 1 may be infiltrating to the subsurface, organic matter in the pond sediments and a thick layer of dense clay underlying the pond likely inhibit movement of volatile organic compounds to groundwater. This is confirmed by the groundwater samples results for trichloroethene at CPT-21 (the location of the maximum trichloroethene concentration of one microgram per liter). Most other samples were non-detect, except for MW-39S, which had a trichloroethene concentration of 5 µg/L.

Trichloroethene concentrations exceeding 11,000 micrograms per liter in groundwater indicate possible residual dense non-aqueous-phase liquids in the surficial aquifer in the Taxiway Tango Median Anomaly Area (in well DMW-11S and probe sample CPT-03), Taxiway Tango Area East (in well MW-45S/CPT-08/PA-7), and the area east of Pond 1 (in wells MW-18I, DMW-3I, and DMW-2A). Historical trichloroethene groundwater data for the Drum Area for probe samples DA-1, DA-3, DA-5, DA-6, DA-7, DA-8, MIP-28, and pre-2004 results for wells DMW-7S and MW-5 also indicate possible residual DNAPL in the surficial aquifer. Generally, however, current TCE concentrations in groundwater samples from wells DMW-7S (4,700 µg/L), MW-5 (not detected), MW-40S/I (3,900 and 6,800 µg/L) and probe groundwater samples CPT-11 through CPT-15 (10-9600 µg/L) do not indicate the current presence of residual DNAPL in groundwater in this part of the Drum Area.

TCE concentrations of 17,000 µg/L at CPT-13 (30 feet deep), 8,000 µg/L at CPT-12 (30 feet deep), and 7,200 µg/L at CPT-11 (35 feet deep) suggest that additional probe groundwater sampling may be required in these areas to further assess possible residual DNAPL in these areas. High concentrations of *cis*-1,2-dichloroethene and vinyl chloride at many Drum Area probe groundwater sampling locations, particularly those downgradient of DMW-7, indicate that degradation of TCE is occurring at the Drum Area. This higher level of degradation is likely in response to past injections of substrate into the surficial aquifer in the Drum Area during a pilot scale test in 2004.

High concentrations of petroleum hydrocarbons (total benzene, ethylbenzene, toluene, and xylenes) in soil at the Petroleum Hydrocarbon Area (PHA) northwest of DMW-9S/I/D indicate that this area is a significant source of volatile aromatic hydrocarbons. Oily sheens observed at soil boring B-15 and in test pit A33 also indicate that light non-aqueous phase liquids may be in the PHA. High concentrations of petroleum hydrocarbons (total benzene, ethylbenzene, toluene, and xylenes [total BTEX]) have also been detected in soil in the Taxiway Tango Median Area and west of well DMW-4 and the well DMW-4 former debris pile area. Probe groundwater sampling at 22 locations in 2012 identified and delineated well-defined petroleum hydrocarbon (total BTEX) groundwater plumes in the Taxiway Tango Median Anomaly Area, the PHA, Taxiway Tango Area East, and the Drum Area. Groundwater concentrations of BTEX were detected primarily in the upper surficial aquifer zone, and appear to be attenuating to low concentrations before reaching the eastern boundary of the Dump Road Area. However, low concentrations of toluene have been detected infrequently in surface water samples collected from Frog Mortar Creek.

Several previously unknown historical features were identified in the Dump Road Area as part of a 2012 aerial photograph study. These features had characteristics or operations that indicate that they may be possible source areas for chemicals disposed of at the Dump Road Area. Several features identified in the photograph review coincide with current known volatile organic compound source areas, such as Pond 1 (designed acid and oil disposal pit) and Taxiway Tango Area East (former open burning area and pit). However, possible chemical source areas were identified in the photograph review; these areas have either not been investigated or currently have only limited environmental sampling data (see Table 7-1).

Table 7-1

Source Areas, Possible Source Areas, and Affected Media—
Dump Road Area, Lockheed Martin, Martin State Airport, Middle River, Maryland

Area	Affected media: trichloroethene	Affected media: petroleum hydrocarbons (benzene, toluene, ethylbenzene, xylenes)
Petroleum Hydrocarbon Area, Pond 1	surface sediment/subsurface soil, groundwater	surface sediment/subsurface soil, groundwater
Taxiway Tango Median Area	subsurface soil, groundwater	subsurface soil, groundwater
Taxiway Tango East— former open burning area and pit (features #44 and #15)	subsurface soil, groundwater	subsurface soil, groundwater
Drum Area (feature #51)	surface and subsurface soil, groundwater	groundwater
Taxiway Tango North— former ammo bunkers (features #20 and #26)	subsurface soil, groundwater	—
Area east of Pond 1	subsurface soil, groundwater	—
Former Pond 3 (feature #2)	soil is unknown, groundwater	soil is unknown
DMW-4 former debris pile area (feature #50)	soil; groundwater	soil; groundwater is unknown
Former Pond 4/open burning area (features #43 and #45)	unknown; surrounding samples indicate trace to low concentrations in soil and groundwater	unknown; surrounding samples indicate trace to low concentrations in soil and groundwater
Former Ponds 5 and 6 (features #46 and #47)	unknown	unknown
Former Pond 7 (feature #42)	unknown	unknown
Taxiway Tango South— former disturbed area (feature #53)	unknown	unknown

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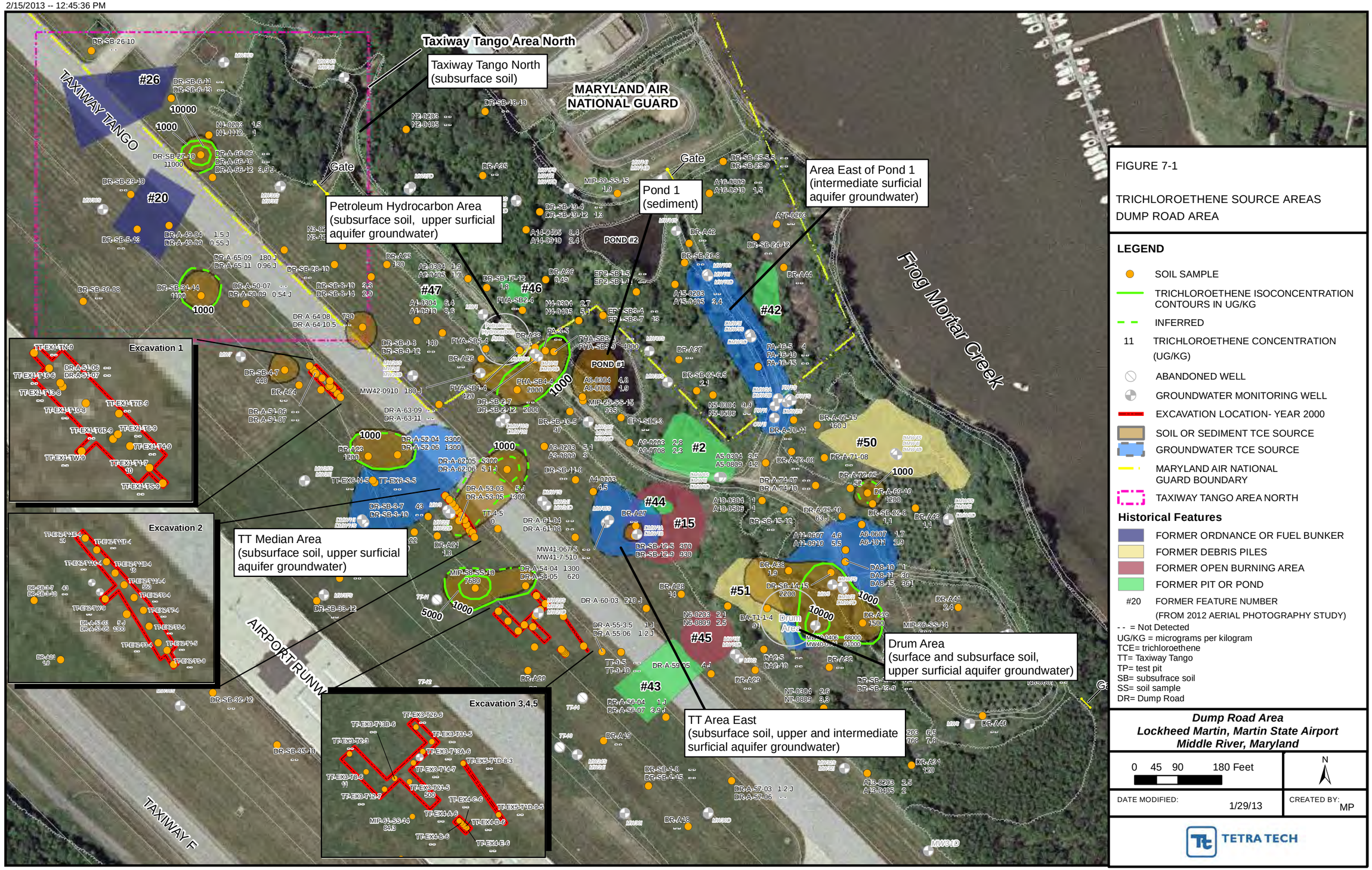

FIGURE 7-1

TRICHLOROETHENE SOURCE AREAS
DUMP ROAD AREA

LEGEND

- SOIL SAMPLE
- TRICHLOROETHENE ISOCONCENTRATION CONTOURS IN UG/KG
- INFERRED
- 11 TRICHLOROETHENE CONCENTRATION (UG/KG)
- ABANDONED WELL
- GROUNDWATER MONITORING WELL
- EXCAVATION LOCATION- YEAR 2000
- SOIL OR SEDIMENT TCE SOURCE
- GROUNDWATER TCE SOURCE
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- TAXIWAY TANGO AREA NORTH

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

- - = Not Detected
UG/KG = micrograms per kilogram
TCE= trichloroethene
TT= Taxiway Tango
TP= test pit
SB= subsuface soil
SS= soil sample
DR= Dump Road

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 45 90 180 Feet

N

DATE MODIFIED: 1/29/13

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Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA BTEX Source Areas 021513.mxd)
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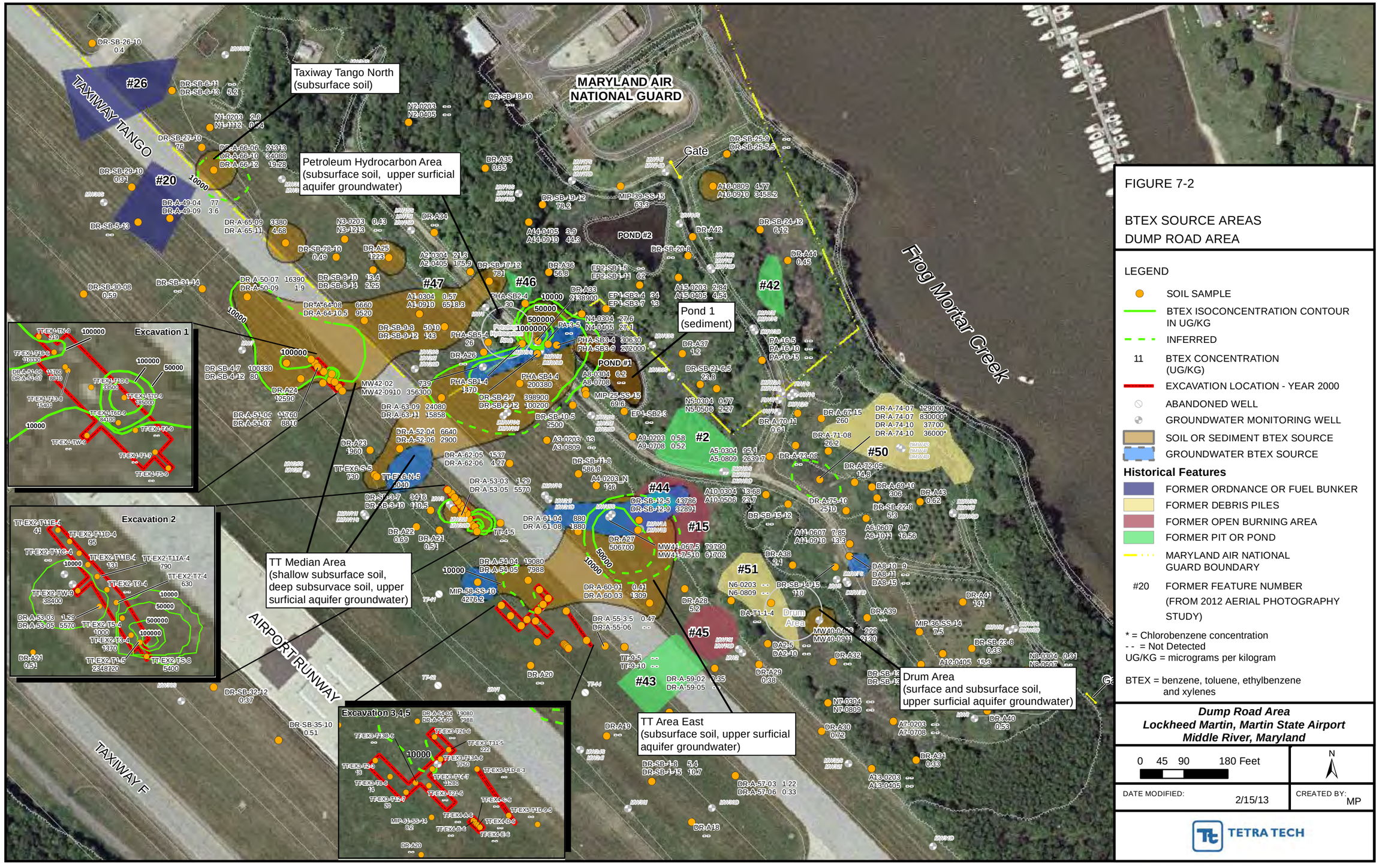

FIGURE 7-2

BTEX SOURCE AREAS
DUMP ROAD AREA

LEGEND

- SOIL SAMPLE
- BTEX ISOCONCENTRATION CONTOUR IN UG/KG
- INFERRED
- 11 BTEX CONCENTRATION (UG/KG)
- EXCAVATION LOCATION - YEAR 2000
- ABANDONED WELL
- GROUNDWATER MONITORING WELL
- SOIL OR SEDIMENT BTEX SOURCE
- GROUNDWATER BTEX SOURCE

Historical Features

- FORMER ORDNANCE OR FUEL BUNKER
- FORMER DEBRIS PILES
- FORMER OPEN BURNING AREA
- FORMER PIT OR POND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- #20 FORMER FEATURE NUMBER (FROM 2012 AERIAL PHOTOGRAPHY STUDY)

* = Chlorobenzene concentration
- - = Not Detected
UG/KG = micrograms per kilogram

BTEX = benzene, toluene, ethylbenzene and xylenes

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 45 90 180 Feet

N

DATE MODIFIED: 2/15/13

CREATED BY: MP

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Section 8
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APPENDIX A—PREVIOUS INVESTIGATION HISTORY

Dump Road Area Previous Investigations History
Martin State Airport
701 Wilson Point Road
Middle River, Maryland

Prepared for:

Lockheed Martin Corporation

Prepared by:

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May 2013



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ACRONYMS

ARARs	applicable or relevant and appropriate requirements
ATC	anticipated typical concentration
BaPEQ	benzo(a)pyrene equivalents
BTEX	benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	CERCLA Information System
cis-1,2-DCE	*cis*-1,2-dichloroethene
COPC	chemical(s) of potential concern
cpm	count(s) per minute
CPT	cone penetration test(ing)
CRA	Compass Rose Area
cVOC	chlorinated volatile organic compound
CY	cubic yard
DA	Drum Area
DNAPL	dense non-aqueous phase liquid
DPT	direct push technology
DRA	Dump Road Area
DRO	diesel range organics
ECD	electron capture device
EGIS	environmental geographic information system
EM	electromagnetic
ERA	ecological risk assessment
ET	evapotranspiration
ft/day	feet per day
FS	feasibility study
g/µg	grams per cubic grams
GPR	ground-penetrating radar
GPS	global positioning system
GRO	gasoline range organics
GSP	Greater Strawberry Point
HHRA	human health risk assessment

IRA	interim remedial action
LNAPL	light non-aqueous phase liquid
Lockheed Martin	Lockheed Martin Corporation
MAA	Maryland Aviation Administration
MDANG	Maryland Air National Guard
MCL	maximum contaminant level
MDE	Maryland Department of the Environment
MES	Maryland Environmental Service
mg/kg	milligram(s) per kilogram
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
MIP	membrane interface probe
MRC	Middle River Complex
MSA	Martin State Airport
NAA	natural attenuation assessment
NAVD 1988	North American Vertical Datum of 1988
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
PA	preliminary assessment
PAH(s)	polycyclic aromatic hydrocarbon(s)
PCB(s)	polychlorinated biphenyl(s)
PCE	tetrachloroethene
PDB	passive diffusion bag
PHA	Petroleum Hydrocarbon Area
pCi/L	picocurie(s) per liter
PID	photoionization detector
ppm	part(s) per million
pVOC	petroleum volatile organic compound
RAO	remedial action objective
RCRA	(federal) Resource Conservation and Recovery Act
RDX	cyclotrimethylene-trinitramine or Royal Demolition Explosive
RI	remedial investigation
SP	Strawberry Point
SVOC	semivolatile organic compound
TCE	trichloroethene
TCLP	toxicity characteristic leaching procedure
Tetra Tech	Tetra Tech, Inc.

TPH	total petroleum hydrocarbon(s)
TT Median Area	Taxiway Tango Median Anomaly Area
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VC	vinyl chloride
VOC	volatile organic compound

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Section 1
Introduction

Numerous environmental investigations have been conducted at the Dump Road Area (DRA) since the mid-1980s. The Dump Road Area is shown in Figures 1-1 and 1-2. Summaries of the historical environmental investigations at the DRA are in Table 2-1 and in the sections below. This document is attached as Appendix A of the *Dump Road Area Characterization of Potential Source Areas Report;* therefore, results provided in the main body of that report (e.g., results for the 2012 Dump Road Area source area investigation) are not repeated herein. Studies of Frog Mortar Creek are also not included because they are being addressed under a separate investigation program. Details of Frog Mortar Creek studies can be found in the surface water report for Frog Mortar Creek (Tetra Tech, Inc. [Tetra Tech], 2012a).

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Source: Google Earth Pro, 2008

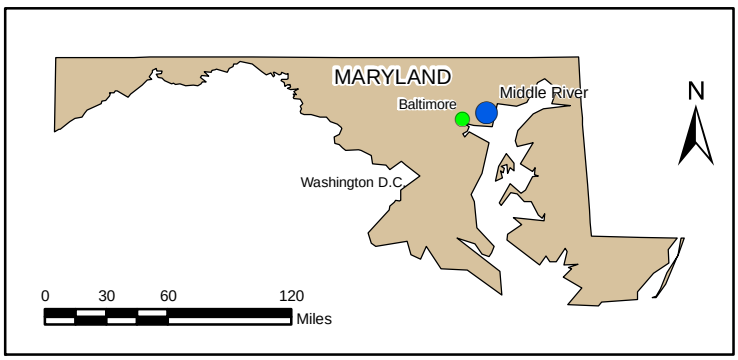

FIGURE 1-1

MARTIN STATE AIRPORT AND DUMP ROAD AREA LOCATION MAP

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
10/05/11	MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Main Terminal and Surrounding Features_revised 1 13 12.mxd)
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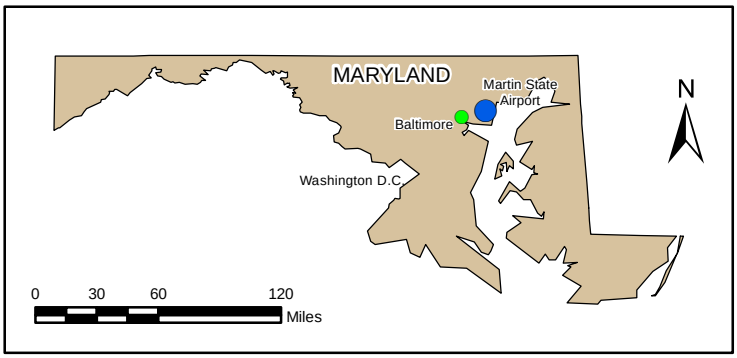


FIGURE 1-2

MARTIN STATE AIRPORT AND SURROUNDING FEATURES

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

DATE MODIFIED:	CREATED BY:
12/14/12	MP

TETRA TECH

Section 2
Previous Investigation History

2.1 MARYLAND DEPARTMENT OF THE ENVIRONMENT SITE INSPECTIONS

Environmental investigations of Martin State Airport (MSA) began in the mid-1980s when Maryland Department of the Environment (MDE) conducted site inspections related to stored drums and a reported chemical dump. In 1985, MDE inspected MSA and found approximately 200 55-gallon drums containing acetone, creosote, and chrome paint in the storage yard behind the maintenance building (MDE, 1989) (see Figure 2-1). The drums were stored on bare ground, an arrangement MDE considered haphazard. MDE issued a "Site Complaint" on July 17, 1985 requiring the Maryland Aviation Administration (MAA) to secure, sample, and remove all waste material from the site within 30 days of the permit.

MDE visited MSA in 1988 in response to an anonymous telephone call claiming that a large chemical dump had operated at a portion of Strawberry Point (SP) during the war (i.e., World War II), and that a large number of drums containing zinc cyanide were buried there (MDE, 1989). MDE was unable to confirm these claims during site visits and interviews with past and current facility workers. However, during an interview conducted for the 1989 preliminary assessment (PA) (MDE, 1989), a former maintenance chief for the Glenn L. Martin Aircraft Company reported to MDE that the SP area, or an adjacent northwestern area, is the former location of a power station. The PA offers no other details regarding the power station.

2.2 PRELIMINARY ASSESSMENT

PAs are limited-scope investigations initiated in response to requirements of the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, and the Superfund Amendments and Reauthorization Act of 1986. The United States Environmental Protection Agency (USEPA) and/or state agencies maintain a database of information about hazardous waste sites on the National Priorities List (NPL), or sites being considered for the NPL. The CERCLA Information System (CERCLIS) is USEPA's

computerized inventory of potential hazardous waste sites. Regional USEPA offices, state agencies, and/or citizens may file a PA petition for a site; that site is then entered into the CERCLA process and subsequently investigated.

MDE conducted a PA of MSA in 1989 under contract to the USEPA (MDE, 1989) and identified several areas of concern (Figure 2-1). An area containing the location of three former pits (two of which are now referred to as Ponds 1 and 2) was identified in the PA as a major area of concern at MSA. These pits were reported to have been used in the past to dispose of acids. The PA also addresses the 1988 anonymous telephone call and associated claims regarding the alleged SP chemical dump and buried drums (discussed in Section 2-1).

The PA identified two other environmental issues at MSA: (1) the maintenance-building yard drum-storage area (also discussed in Section 2.1), and (2) three buildings previously used for a nuclear generator. During interviews conducted for the PA, MAA reported that in late 1985, subsequent to MDE's 1985 inspection, the drums at the maintenance yard area had been removed and their contents disposed of by a waste contractor. Only three empty drums were found in the maintenance yard area during the 1989 PA. Adequate documentation regarding the closure of the nuclear generator buildings was not available during the PA. The MDE Hazardous Waste Enforcement Division and Center for Radiological Health was therefore notified so follow-up inspections could be performed.

The PA reported that the United States Geological Survey (USGS) topographic map for MSA shows an area labeled as "sandpits" adjacent to Frog Mortar Creek. The topographic map shows three open ponds in this "sandpits" area. However, MDE only found two of the ponds during the PA site visits. The MSA facility manager interviewed during the PA stated that these ponds were known as "acid pits." The MSA facility manager stated that former aircraft facility employees had told him that spent battery acid, acid-type strippers, and other acidic solutions had been routinely dumped into the three ponds. The former aircraft facility employees also told the MSA facility manager that dredge spoils and construction debris had been disposed of in these ponds.

At the time of the 1989 PA, MSA was regulated under federal Resource Conservation and Recovery Act (RCRA) Corrective Action regulations. The PA recommended no further remedial

action under CERCLA. However, it also states that this classification could be reconsidered if new information indicated a need for additional studies.

2.3 1991 DRUM DISCOVERY AND GEOPHYSICAL SURVEY

In July 1991, four drums were uncovered during installation of underground electric cables adjacent to (i.e., west of) Taxiway Tango (Figure 2-2). These drums contained dried zinc-chromate paint and were removed by MAA. A subsequent file review by Maryland Air National Guard (MDANG) produced a map and soil profiles of the area that were prepared in 1956 by the United States Army Corps of Engineers.

The soil profiles indicate an area of fill and trash approximately 900 feet long and five feet deep underlying Taxiway Tango. This discovery prompted MAA to conduct a geophysical survey of a 200- by 1,600-foot area adjacent to Taxiway Tango, between the taxiway and the runway (Handex, 1992). The locations of the 1991 geophysical survey study area, along with the 1956 soil boring locations where fill and trash were encountered, are shown in Figure 2-2; the results of the geophysical survey are shown in Figure 2-3.

As shown in the figure, numerous geophysical anomalies were detected during the survey, indicating possible buried metal within the survey area. The top surfaces of the metal material were estimated to be at shallow depths, between two and three feet below grade. The survey report recommended excavating several test pits to inspect the areas of the suspected buried metal.

2.4 1994 PRELIMINARY SITE INVESTIGATION

Upon review of the geophysical survey report, MDE asked MAA to further investigate and remediate the location where the four buried drums had been found (MDE, 1992). MAA conducted a records search and preliminary site investigation in early 1994 (Maryland Environmental Service [MES, 1994]). The field investigation included advancing 11 soil probes using direct-push technology (DPT), chemical analyses of 15 soil gas and 16 soil samples, and installation and sampling of three piezometers (PZ-1, PZ-2, and PZ-3). One piezometer was west of the geophysical survey area and the other two were near Taxiway Tango. The sampling locations and piezometers are shown in Figure 2-4. Soil gas samples were analyzed for total petroleum hydrocarbons (TPH), gasoline-range organics (GRO), and the petroleum volatile

organic compounds (pVOCs), benzene, toluene, ethylbenzene, and xylenes (BTEX). Soil samples were analyzed for toxicity characteristics leaching procedure (TCLP) metals, TCLP volatile organic compounds (VOCs), pH (a measure of acidity or alkalinity), ignitability, and sulfide. Groundwater samples were analyzed for VOCs, inorganics (metals), and water quality parameters (e.g., alkalinity, nitrate, nitrite, turbidity, etc.).

Methyl-ethyl-ketone and chlorinated volatile organic compound (cVOCs) such as tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride (VC) were detected in soil samples. Metals concentrations in soil samples were less than the TCLP concentrations used to determine if a material is hazardous, in accordance with 40 Code of Federal Regulations 261. Several VOCs exceeded USEPA maximum contaminant levels (MCLs) for safe drinking water by more than three orders of magnitude (i.e., by more than a factor of 1,000). Single-well permeability tests on the three shallow piezometers provided an estimated average hydraulic conductivity of 0.33 feet per day (ft/day).

2.5 1994 CONFIRMATION INVESTIGATION

MAA conducted a confirmation investigation in 1994 to further delineate the extent of contamination at the buried drum site (MES, 1995). The field program consisted of the following activities:

- advancement of 85 shallow soil borings to depths of 2–16 feet below grade
- chemical analyses of 75 soil samples for VOCs, semivolatile organic compounds (SVOCs), inorganics, and TPH; several soil samples were analyzed for TCLP metals
- chemical analyses of three soil samples from monitoring well borings
- installation of three groundwater monitoring wells (MW-1, MW-2, and MW-3)
- implementation of single-well permeability tests (i.e., slug tests) on these wells
- chemical analyses of groundwater samples from three wells and 23 temporary wells for VOCs, SVOCs, metals, TPH, sodium, and chloride
- chemical analyses of a surface water sample from an acid pit (now referred to as Pond 1)

Soil boring locations are shown in Figure 2-5. The investigation indicated that higher concentrations of contaminants in soil correlated with geophysical anomalies identified in the

1991 survey. Elevated concentrations of TPH, VOCs, and SVOCs were detected in shallow groundwater samples. Maximum concentrations detected in one probe groundwater-sample, approximately 200 feet east of Taxiway Tango (in an area that appears to be between wells MW-26S/I and MW-4) exceeded MCLs by factors ranging from more than 400 times for *cis*-1,2--dichloroethene (*cis*-1,2-DCE) to more than 1,000 times for VC.

BTEX were also detected in groundwater samples, with benzene concentrations exceeding its MCL in five probe groundwater samples. Concentrations of chromium exceeded the MCL at four groundwater sampling locations. Concentrations of lead and nickel in groundwater exceeded MCLs at nearly all sampling locations. The investigation results were used to simulate the fate and transport of groundwater VOC contamination via numerical modeling.

2.6 1996 EXPANDED INVESTIGATION

In 1996, MAA expanded its investigation of soil and groundwater quality to include the fill area between Taxiway Tango and Frog Mortar Creek (MES, 1996). This investigation involved the area east of Taxiway Tango, including the two former acid pits (i.e., ponds) that had been identified in the 1989 PA. These sampling results were used to evaluate potential risks to human health.

Aerial photographs from 1952 and 1957 reviewed during the expanded investigation show an open “burial area” or “dump” adjacent to what is now Taxiway Tango. The photographs also show the area of “Acid Pit #1” (i.e., Pond 1). Thick smoke in the photo appears to emanate from the vicinity of “Acid Pit #1.” During the expanded investigation, 25 DPT soil borings and five manual soil-probe borings were advanced in this area to depths ranging from 6–22 feet below grade.

Soil samples were screened in the field for VOCs using a mobile laboratory, and 15 samples with elevated concentrations of VOCs were submitted to a fixed-base laboratory for chemical analyses. Ten DPT groundwater samples were collected and screened in the field before being submitted to a fixed laboratory for chemical analyses. Three groundwater monitoring wells (MW-4, MW-5, and MW-6) were also installed as part of this investigation (these wells are shown in Figure 2-7). Groundwater samples were collected from six wells and three piezometers and analyzed for VOCs, SVOCs, and metals. One composite sediment sample each was collected

from Acid Pit # 1 and Acid Pit #2 (i.e., two ponds) and analyzed for TCLP parameters for organics and metals.

A void was encountered while advancing soil boring B-8. Neither the soil boring log for location B-8 nor the MES report clearly indicate details of the void; however, the boring log indicates that the void may be from a buried tank or container at depths of eight to 13 feet. The soil lithology column in the log shows no lithology from two to eight feet, but soil samples from five and 10 feet are described, and continuous lithology is shown in the log from eight to 14 feet (the bottom depth of the soil boring). The MES report indicated that the void is 11 feet long.

Soil at the 12 to 14 feet depth interval in boring B-8 was reported as having a strong odor, and had a high field reading (greater than 2,500 parts per million [ppm]) for total VOCs using a portable photoionization detector (PID). The boring log also indicates that pure product was observed at this depth. Soil samples from a depth interval of 12 to14 feet (as noted in the log) were submitted to both the field laboratory and an off-site analytical laboratory for chemical analyses (note, however, that Table 1 in the 1996 expanded investigation report lists the sampling depth as 10 to 14 feet). The field laboratory analyses of soil from boring B-8 found high concentrations of TCE (6.2 milligrams per kilogram [mg/kg]) and TPH-diesel-range organics (DRO) (19,000 mg/kg). However, the off-site laboratory analyses reported a much lower TCE concentration of 130 micrograms per kilogram (µg/kg), which is equivalent to 0.130 mg/kg.

As part of the same investigation, free product was observed at depths of four to seven feet in boring B-15, which is in the dirt access road near the Petroleum Hydrocarbon Area (PHA). A VOC reading of 9,300 ppm was recorded for soil at six feet below grade, which is at the groundwater table. This was presumably petroleum-related product of light non-aqueous phase liquid (LNAPL). A sample from four to seven feet (as indicated on the log, but Table 1 in the 1996 report shows seven to 10 feet) was collected for chemical analyses. The laboratory reported TCE in the boring B-15 soil sample at 140 µg/kg and xylenes at 13,000 µg/kg (13 mg/kg).

While clearing vegetation for sampling access, deteriorated drums were discovered on the ground northeast of Taxiway Tango, in the area now known as the Drum Area (DA). The contents tested TCLP-hazardous for chromium and were collected for off-site disposal. Sediment samples were also analyzed using TCLP methods (TCLP extraction and subsequent analyses).

Results from Acid Pit #1 (Pond 1) exceeded the TCLP limit for cadmium and TCE. TCE was also detected at a concentration of 63,000 micrograms per liter (µg/L) in a groundwater sample from newly installed well MW-5, downgradient of the DA.

2.7 1999 GROUNDWATER MONITORING WELL SURVEYING AND SAMPLING

Lockheed Martin first evaluated the site in March 1999, surveying and sampling the six existing groundwater monitoring wells MW-1 through MW-6 and piezometer PZ-2 (Tetra Tech, 1999). The locations of these wells and piezometer are shown in Figure 2-7. Previously installed piezometers PZ-1 and PZ-3 could not be located during the 1999 study.

The study objectives were to provide horizontal locations and casing elevations for the wells and piezometer using established vertical and horizontal datum, and to obtain updated chemical data on groundwater quality and groundwater flow direction at the DRA. Additionally, the MDE well database was searched to provide details on possible water-supply wells within a half-mile of the DRA. Horizontal survey coordinates for the wells and piezometer were obtained using the Maryland State Plane System. Elevations were surveyed to the nearest 0.01 foot. Groundwater samples were analyzed for VOCs, SVOCs, total and dissolved metals, TPH-DRO, and TPH-GRO.

Consistent with previous findings, TCE and *cis*-1,2-DCE, and VC were detected in selected monitoring wells at concentrations exceeding Maryland groundwater standards and federal MCLs. TCE was detected at all wells/piezometer except MW-4, with concentrations ranging from 10 µg/L at PZ-2 to 59,000 µg/L at MW-5 (duplicate sample concentration). The second highest TCE concentration, 380 µg/L at MW-3, was two orders of magnitude less than the TCE concentration at MW-5. SVOCs (e.g., naphthalene, phenol, 2-methylphenol, and 4-methylphenol) were only detected at MW-5. High concentrations of TPH-GRO (46,000 µg/L) and TPH-DRO (2,800 µg/L) were detected at MW-5. For metals, only dissolved beryllium (at MW-2, MW-5, and MW-6) and dissolved cadmium (at MW-2 and MW-5) exceeded MCLs. Detection of elevated VOC concentrations in the existing monitoring wells led to further investigation of the site to identify possible chemical source areas.

Seventeen upgradient wells were identified within one-half mile of the DRA. Fifteen are domestic wells and two are industrial wells. The closest wells are on the eastern shore of Frog

Mortar Creek (across from the DRA) and on the MDANG property north of the DRA. Well depths range from 50 to 199 feet below grade.

2.8 2000 SOURCE IDENTIFICATION AND ASSESSMENT PROGRAM

From March to May 2000, the source identification and assessment program (Tetra Tech, 2000), further investigated the four areas previously identified by MAA as possible chemical-release areas (see Figure 2-6). Each possible chemical source area was investigated through a combination of excavations, localized trenching, drilling of soil borings, and sampling and laboratory chemical analyses of soil, sediments, and groundwater samples. Trench and sampling locations are shown in Figure 2-6.

Soil in the TT Median Area was investigated by excavating six test pits (TT-EX1 through TT-EX6) and collecting 42 soil samples for chemical analyses. Soil in the DA was investigated by excavating a 10- by 10-foot area (DA-E1), excavating four trenches/cross-trenches (DA-T1 through DA-T4), and collecting 21 soil samples from the excavations for chemical analyses. Five nearby locations (DA-NC1-1, DA-NC2-1, and DA-ES1-1 through DA-ES3-1) were also sampled where 11 deteriorating drums had been found on the ground.

The contents of three drums were sampled. The contents of two were characterized as non-regulated material and were transported off-site as non-hazardous waste. The third drum contained soil coated with yellow-green paint which was characterized as hazardous waste due to chromium; this drum was transported off-site under a “Uniform Hazardous Waste Manifest.”

Shallow soil in the area of Pond 1, Pond 2, and the PHA were investigated by collecting 15 soil samples at depths of 11 feet or less (typically four to five feet deep) from drilled soil borings (borings EP1-SB1 through EP1-SB3 for Pond 1; EP2-SB1 through EP2-SB4 for Pond 2; and PHA-SB1 through PHA-SB5 for the PHA). Groundwater samples were also collected from each pond area and from PHA soil borings. Additionally, four pond sediment samples (two from each pond) were collected. The PHA soil borings were located near soil boring B-15 (from the 1996 confirmation investigation), which contained petroleum hydrocarbons.

cVOCs and pVOCs were detected in soil and groundwater during this investigation. VC was the only VOC in soil or pond sediment detected above the USEPA industrial soil risk-based criteria, (the criteria used to screen the results for this study). The VC exceedance was for a soil sample collected at the PHA.

pVOCs were primarily detected in soil samples from TT Median Area Excavations 1 through 3 and 6. Low concentrations of pVOCs were also detected at the DA. TCE and other cVOCs were detected in both DA and TT Median soil samples; however, cVOC concentrations detected in TT Median Area Excavations 1 through 3 were low.

At the DA, TCE was detected at maximum concentrations of 7,000 µg/kg in a trench soil sample, and 6,500 µg/kg in a sample collected below deteriorated drums. Low concentrations of cVOCs and pVOCs were detected in soil samples collected around the ponds. At the PHA, high concentrations of pVOCs (primarily xylenes and naphthalene at maximum concentrations of 260,000 µg/kg and 100,000 µg/kg, respectively) and moderate concentrations of cVOCs (maximum TCE, *cis*-1,2-DCE, and VC concentrations of 4,000 µg/kg, 20,000 µg/kg, and 5,000 µg/kg, respectively) were detected in soil samples. Four inert bombs (ranging from 100 to 2,000 pounds) were also uncovered at TT Median Area Excavation 5, and were removed from MSA by explosive ordnance disposal personnel from Fort Meade, Maryland.

Concentrations of cVOCs (TCE, carbon tetrachloride, VC, etc.) and pVOCs in groundwater samples collected near the ponds and at the PHA exceeded Maryland groundwater standards by several orders of magnitude. The pH measurements for soil and groundwater around the ponds and at the PHA generally indicate slightly acidic to slightly alkaline conditions; pH ranges from 6.1 to 9.4 standard units for most samples. Stronger acidic conditions are indicated in soil (pH = 4.7 for samples EP2-SB1-5 and EP2-SB2-1) and groundwater (pH = 4.0 for EP2-SB2-GW) on the southern side of Pond 2.

Sediment samples from Pond 1 contained high concentrations of both cVOCs and pVOCs. Notable maximum VOC concentrations in Pond 1 sediment include PCE at 3,300 µg/kg, TCE at 69,000 µg/kg, *cis*-1,2-DCE at 34,000 µg/kg, toluene at 350,000 µg/kg, and xylenes at 46,000 µg/kg. In general, the pH measurements for pond sediment and water indicated neutral to

slightly alkaline conditions, with pH measurements for all but one sample ranging from 7.0 to 8.2. One Pond 1 sediment sample was slightly more acidic, with a pH of 6.6 standard units.

2.9 2001–2002 CHEMICAL DELINEATION AND INITIAL MODELING STUDY

The chemical delineation and initial modeling study conducted in 2001-2002 further delineated the lateral extent of chemicals in near-surface groundwater at the four source-areas of concern (Tetra Tech, 2002). The investigation included collecting and chemically analyzing shallow soil and groundwater samples from soil borings, installing four groundwater monitoring wells (DMW-1A. DMW-1B, DMW-2A, and DMW-2B), sampling and chemically analyzing groundwater samples from six existing and four new wells, conducting a tidal influence study, and conducting groundwater flow and chemical-transport modeling. Twelve exploratory borings (borings SB-1 through SB-12 were advanced in the TT Median Area near previous soil excavations and along the western edge of Taxiway Tango to inspect the soil for burned material and possible wastes. Visual inspections of soil found no signs of burned material or evidence of waste disposal at these borings.

Samples from soil borings and temporary wells were collected at the following locations:

TT Median Area:

- soil samples—SB-1 through SB-12; and TT-4
- groundwater samples—TT-1 through TT-10

PHA:

- soil samples—PA-3 and PA-16
- groundwater samples—PA-1 through PA-16; and SB-13

DA:

- soil samples—DA-2 and DA-8
- groundwater samples—DA-1 through DA-14

These sampling locations are shown in Figure 2-6. Locations of wells installed and sampled in 2002 are shown in Figure 2-7; wells installed in 1995 and 1996 were also sampled. Samples

were analyzed for VOCs, SVOCs, pesticides/polychlorinated biphenyls (PCBs), metals, hexavalent chromium, TPH-DRO, and TPH-GRO. Several soil samples were collected for geotechnical analyses.

Generally, trace to low VOC concentrations were detected in the soil samples. The highest VOC concentrations were in DA-8 at a depth of 15 feet (361 µg/kg), and PA-16 at 20 feet deep (329 µg/kg). The remaining soil samples all had TCE concentrations less than 30 µg/kg, with most less than 10 µg/kg. Exploratory soil borings advanced around Taxiway Tango (SB-1 through SB-12) showed no signs of burned materials or wastes.

Wells DMW-1A/1B and DMW-2A/2B were installed to characterize the site geology and vertical extent of groundwater impacts in the surficial aquifer. DMW-1A/1B was installed near groundwater sampling location PA-7, where TCE was detected in the upper surficial aquifer at a concentration of 220,000 µg/L. DMW-2A/2B was installed near groundwater sampling location PA-15, where VC in the upper surficial aquifer was detected at a concentration of 27,000 µg/L.

As stated earlier, six previously installed wells (MW-1 through MW-6) and the four newly installed wells (DMW-1A, DMW-1B, DMW-2A, and DMW-2B) were sampled in 2002. Groundwater samples were also collected from the 41 temporary well locations listed above. Data collected during the groundwater investigation indicated that cVOCs (primarily TCE, *cis*-1,2-DCE, and VC) and metals (primarily cadmium*)* were in the groundwater above Maryland groundwater standards.

TCE, *cis*-1,2-DCE, VC, and BTEX results for the groundwater samples are shown in Figures 2-8 through 2-11. As shown in Figure 2-8, the maximum groundwater TCE concentrations for each of the study areas were 650 µg/L at MW-3 for the TT Median Area, 220,000 µg/L at PA-7 for the PHA, 130,000 µg/L at DA-7 for the DA, and 12,000 µg/L at well DMW-2A east of Pond 1. The groundwater plume configurations for *cis*-1,2-DCE (Figure 2-9) and VC (Figure 2-10) are similar to TCE (Figure 2-8); however, the maximum *cis*-1,2-DCE concentration (180,000 µg/L at DA-12) was in the southeastern portion of the study site, whereas the maximum VC concentration (27,000 µg/L at PA-15) was east of Pond 1. BTEX (Figure 2-11) were detected primarily at the PHA and DA and, to a lesser extent, east of Taxiway Tango at wells DMW-1A and DMW-1B. A chlorobenzene concentration of 50,000 µg/L was detected east of Taxiway

Tango at TT-5. The lateral and vertical distributions of chemicals in groundwater were not delineated during this investigation.

The tidal study indicated that groundwater elevations fluctuate up to 0.31 feet in response to tidal influences. The numerical groundwater model was constructed, calibrated, and verified as part of the tidal study. The model was used to locate future groundwater monitoring well locations based on groundwater flow-path analyses.

2.10 2003–2004 DATA-GAP INVESTIGATION AND MODELING STUDY

The 2003–2004 data-gap and groundwater-modeling investigation (Tetra Tech, 2004a) aimed to fully delineate and characterize chemical plumes at the site and model groundwater behavior. The investigation included:

- installing and sampling additional groundwater monitoring wells
- collecting 11 soil samples from borings for wells DMW-7, DMW-8, and DMW-9 for geotechnical analyses
- testing the aquifer hydraulics of the 28 newly installed wells
- conducting two rounds of quarterly groundwater sampling and chemical analyses, including bio-parameter analyses (September and December 2003)
- modeling groundwater flow and chemical fate and transport

Nine additional multi-level monitoring wells (DMW-3S/I/D through DMW-11S/I), three shallow wells (DMW-1S, DMW-2S, and MW-7), and four temporary wells (TT-11 through TT-14) were installed as part of this study. The locations of the wells installed in 2003 are shown in Figure 2-7.

Lithologic results for the study show the surficial aquifer is divided into three zones: the upper surficial aquifer, the intermediate surficial aquifer, and the lower surficial aquifer. This study designated the upper surficial aquifer as the portion above an elevation of ¯15 feet, the intermediate surficial aquifer as the portion between elevations of ¯15 and ¯45 feet, and the lower surficial aquifer as the portion below an elevation of ¯45 feet. Permeability tests indicate that

surficial aquifer hydraulic conductivities range from 0.05 ft/day in clayey material at well DMW-3S, to 35.80 ft/day in sandy material at well MW-1.

The results of the groundwater sampling and chemical analyses for the upper, intermediate, and lower surficial aquifer zones are shown in Figures 2-12 through 2-14, respectively. The lateral and vertical distributions of chemical concentrations in groundwater indicate three possible source areas at the site, contributing to three primary groundwater plumes:

- Plume 1, originating from the DA
- Plume 2, originating from the PHA and Pond 1 area
- Plume 3, originating from the TT Median Area

As shown in Figures 2-12 through 2-14, PCE, TCE, *cis*-1,2-DCE, VC, other cVOCs, BTEX, beryllium, cadmium, chromium, lead, nickel, and zinc in groundwater were reported at concentrations exceeding Maryland groundwater standards. The highest concentrations of TCE were reported at:

- DA at MW-5 and DMW-7S (both at 34,000 µg/L)
- northeast of the DA at DMW-5S (estimated concentration of 30,000 µg/L)
- east of Pond 1 at DMW-2A and DMW-3I (29,000 and 23,000 µg/L, respectively)
- TT Median Area at DMW-11S (estimated concentration of 22,000 µg/L)

In the TT Median Area, the TCE concentration at DMW-11S (22,000 µg/L) was more than 30 times greater than the previous maximum for this area (650 µg/L at MW-3) in 2002. However, the TCE concentration at DMW-1B (9,000 µg/L) was several orders of magnitude less than the maximum TCE concentration detected in temporary well sample PA-7 (220,000 µg/L) in 2002.

The distribution of VOCs in groundwater suggests that dechlorination of TCE to *cis*-1,2-DCE and of *cis*-1,2-DCE to VC was occurring. VOCs were found migrating along the downgradient groundwater-flow path from west to east toward Frog Mortar Creek. Although the three plumes originate at the primary source areas, the plumes have co-mingled to form a single contiguous area of groundwater contamination in the eastern portion of the site (wells DMW-3, DMW-4, and DMW-5) approaching Frog Mortar Creek. Site-specific information was used to develop a

conceptual model, including regional setting, soil lithology, aquifer characteristics, and historical and current chemical concentration data. Numerical modeling was conducted to predict groundwater flow and chemical migration in the investigation area.

2.11 2003–2004 QUARTERLY GROUNDWATER MONITORING

Quarterly groundwater sampling of the DRA wells was conducted in September and December 2003 and in March, June, September, and December 2004. The September 2003 results are in the *Final Data-Gap Investigation and Groundwater Modeling Report* (Tetra Tech, 2004a). The results of the remaining quarterly rounds are summarized in five quarterly sampling reports (Tetra Tech, 2004b–e and 2005a).

Thirty-eight permanent wells and four temporary wells were sampled in each of the first two rounds. The wells sampled include MW-1 through MW-7, DMW-1A/B through DMW-11S/I, and temporary wells TT-11 through TT-14 (see Figure 2-7). The temporary "TT" wells were not sampled after the December 2003 round. The September 2003 "baseline" samples were analyzed for VOCs, SVOCs, pesticides, total metals, and dissolved metals. Subsequent rounds included the VOC and metals analyses, but SVOC samples were collected only for wells where SVOCs had been detected in the prior round.

Samples were not analyzed for pesticides after September 2003 because no pesticides had been detected in the September 2003 round. Analysis for perchlorate was added for wells sampled in September 2004, and for three of the wells sampled in December 2004. Thirteen wells were sampled in each of the September and December 2004 rounds.

During each of the five rounds, several wells were sampled for bio-parameters consisting of nitrate, sulfate, and ferric iron. The 38 permanent wells were purged using dedicated bladder pumps. The four temporary wells (TT-11 through TT-14) were sampled using low-flow peristaltic pumps.

Concentration contour maps for TCE, *cis*-1,2-DCE, and VC in the upper, intermediate, and lower surficial aquifer zones and time-series trends of several wells were generated for the quarterly monitoring reports. The results for the quarterly sampling rounds are generally consistent with the September 2003 "baseline" results. Notable variations include substantial decreases in TCE

concentrations at DMW-1B after the first round, and in TCE concentrations at MW-5 (from 63,000 µg/L in 1996 to 20,000 µg/L in 2002). TCE concentrations at MW-3 also decreased between 1995 and 2004. Increasing TCE trends were evident at several downgradient perimeter wells (e.g., DMW-2A, DMW-4S, DMW-4D) until December 2003; an upward spike occurred in March 2004 (June 2004 for DMW-4S), with a subsequent return to pre-spike levels.

2.12 2005 GROUNDWATER USER SURVEY

A private potable-well survey for the area around MSA was conducted in 2005 (Tetra Tech, 2005b) and repeated in 2010 (Tetra Tech, 2012d). Both surveys involved the following activities:

- reviewing relevant records and other documentation regarding historical and current public and private groundwater users in the area
- obtaining current aerial photographs of MSA and environs to identify any wells
- evaluating plume migration from the site to the closest potable-well location
- completing a field verification of wells identified in the records review

The survey elements included:

- reviewing MDE and Baltimore County records to identify wells drilled and/or abandoned, to determine current well uses, and to locate well construction information and any groundwater sampling data available
- identifying areas in the survey area with municipal potable-water
- obtaining and reviewing aerial photographs and topographic maps to identify historical and current well locations
- flying over the site to take current aerial photographs of the neighborhoods east of the site
- summarizing pertinent regulations and policies concerning permitting, compliance, and operating requirements for private and public groundwater users in the survey area
- performing field reconnaissance to verify the status of the wells identified in the public records and document searches (specified above), and to locate additional wells that might be in the area

All wells identified in public records were checked in the field; however, wells east of Frog Mortar Creek were the main focus. No contacts were made with residents or business owners in the survey area regarding the water source (e.g., municipal, private well) they use for drinking or other uses (e.g., irrigation, process water).

Most of the user-survey area residences and businesses around MSA were supplied by Baltimore County public water. Three reservoirs (Loch Raven, Pretty Boy, and Liberty) in the central, northern, and western parts of the county are surface water impoundments for the public water supply. Water from these reservoirs is piped to the City of Baltimore reservoir, which serves the survey area. Only a limited number of private potable wells appear to be in use.

Data from off-site well logs indicates that most wells are screened in the Patapsco Formation. Depths for these wells range from 57 to 140 feet below the ground surface. South of Eastern Boulevard, wells extending into the Patuxent Formation generally range from 176 to 224 feet deep. North of Eastern Boulevard, two wells in the survey area (ranging from 105 to 135 feet deep) are described as being screened in the Patuxent Formation.

Eighty-four wells in the survey area were documented as possibly being in use. The study indicated that most of these wells are likely associated with properties that have been connected to public water; thus, these wells may no longer exist. Properties that apparently had not been connected to public water, and which have records of wells, are beyond public lines at the ends of roads or peninsulas.

A former well at 3301 Edwards Lane (i.e., the closest well to the site) was no longer used for drinking water since the property was supplied by public water. Other locations in this area, such as the residence at 800 Middle Road, the Brigadoon Marine Facility, and houses on Claire's Lane, likely have water supply wells. Residences to the north, on Bengies Road, Bourque Avenue, Hillpine Road, and Gladway Road, were clearly not supplied by public water. Residences to the west at the end of Punte Road and Weber Avenue are likewise beyond the area supplied by public water. Most other residences with well records on file, lying east of Frog Mortar Creek and west of Middle River, are likely connected to public water. The survey findings suggest that no potable wells are now in use in the immediate vicinity of the site. The

3301 Edwards Lane well is the closest potable well to the site; however, it is no longer used and has reportedly been abandoned.

The survey area was divided into three regions for field reconnaissance:

- *Region 1: Lands east/northeast of the airport and south of Eastern Boulevard*—Bowleys Quarters Road extends the full length of the peninsula east of Frog Mortar Creek. Along the peninsula perimeter are smaller peninsulas extending out into the creek. Other than the dense residential development to the east/northeast, this area primarily consists of small houses built on small waterfront lots. At one time, each of these houses appeared to have been supplied by a domestic well. In recent years, virtually all of them appear to have been connected to public water. Thirty-seven possible well locations were retained following the well records review and field reconnaissance. Most of these wells are in areas where water mains are not shown on county key-maps, or where a sizeable property lies at the end of a peninsula or road, beyond the farthest indication of a public water line.

- *Region 2: Lands north of Eastern Boulevard*—Most of the residences identified as possibly having wells in this region are on sparsely developed single-lane asphalt roads beyond the end of public water supply mains. This area, referred to as Bengies, appears to have been more accessible and more developed in the 1930s. Several plowed fields are evident in historical photographs. Currently, many of the roads that are overgrown and have no outlet were once connected. This is particularly true of Bengies Road, which consists of three distinct pieces of what was once a continuous road.

- *Region 3: Lands west/southwest of the airport and south of Eastern Boulevard*—This area is characterized primarily by residential development. Dense residential areas are found along the Wilson Point peninsula, west, and southwest of the airport. West of the MSA, between Middle River and Dark Head Creek, an extensive townhouse development dates from about the 1960s. Overall, the remaining land consists of waterfront areas along the west bank of Middle River and various peninsulas surrounded by tributaries of Middle River. In comparison to the waterfront properties east of Frog Mortar Creek, these residential lots are somewhat larger, and development is organized into subdivisions encompassing the entire peninsula. These areas appear to have received access to public water some time ago.

2.13 2005 ADDITIONAL SOIL AND SEDIMENT SAMPLING

At the request of MDE, additional soil samples were collected from Taxiway Tango excavations in areas where elevated total chromium levels (e.g., 9,300 mg/kg) were detected in previous soil samples collected at Excavation 2. Twelve soil samples (six soil samples from one-foot deep, and six samples from four-foot deep) were collected in May 2005 and analyzed for total chromium and hexavalent chromium (Tetra Tech, 2005c). Four pond sediment samples were also collected from Pond 1 to supplement previous sediment chemical data collected from this area of the site.

The pond sediment samples were analyzed for VOCs, SVOCs, metals, PCBs, hexavalent chromium, and simultaneously extracted metals/acid-volatile sulfides. Samples were collected to complete human health and ecological risk assessments for the site. Sampling locations are shown in Figure 2-15.

Relative to total chromium concentrations, hexavalent chromium was detected at low concentrations in six samples, with concentrations ranging from 0.36–1.4 mg/kg. Five of the six hexavalent chromium detections were in the one-foot samples. Three of the sediment samples had low to moderate concentrations of VOCs, SVOCs, metals, and PCBs, but high concentrations of TCE (270,000 µg/kg), benzene (215 µg/kg), toluene (350,000 µg/kg), ethylbenzene (30,400 µg/kg), and xylenes (86,500 µg/kg) were detected in EP1-SD5. Hexavalent chromium was not detected in the pond sediment samples.

2.14 2006 GROUNDWATER MONITORING

Groundwater samples were collected from 36 wells in August 2006 to provide current water-quality data for the DRA; these results were not presented in a report. Wells sampled included MW-2 through MW-6, and DMW-1A/B through DMW-11S/I (see Figure 2-7). The temporary "TT" wells were not sampled in 2006. Samples were analyzed for VOCs, 1,4-dioxane, perchlorate, total and dissolved metals, and hexavalent chromium. Additionally, DMW-3S and DMW-9S were analyzed for SVOCs.

cVOC concentrations exceeded Maryland groundwater standards throughout a large portion of the investigation area at multiple depths. The maximum TCE concentration observed in a 2006 monitoring well sample was 41,000 µg/L reported for upper surficial-aquifer well DMW-11S. 1,4-Dioxane and perchlorate were detected in 34 and 17 groundwater samples, respectively. Hexavalent chromium was not detected in these samples. Low concentrations of several SVOCs were detected at DMW-3S and DMW-9S.

2.15 2007–2008 ADDITIONAL ON-SITE SOIL AND GROUNDWATER CHARACTERIZATION

To further delineate and characterize the chemical plumes and provide data to support evaluation of remedial alternatives, additional on-site soil and groundwater characterizations were

conducted from September 2007 through February 2008 (Tetra Tech, 2008). The overall objectives of the field activities were to characterize subsurface soil in the vadose and saturated zones, delineate the lateral boundaries of contamination in soil and groundwater, and delineate the vertical extent of contamination in soil and groundwater. The study included electromagnetic (EM) and gamma geophysical surveys to identify anomalies in the subsurface that may represent buried waste and possible contaminant source(s).

Twenty-five test pits (test pits A1 through A17 and N1 through N8) were excavated at locations identified by the geophysical survey as being either anomalous or non-anomalous, to provide soil samples for chemical analysis and to provide information regarding the depth of fill material. In addition, test pit excavation allowed for visual identification of buried debris. Test pits designated with an "A" were in areas identified as having a geophysical survey anomaly (i.e., an area of elevated electromagnetic conductance), whereas the "N"-designated tests pits were in areas where geophysical anomalies were not observed (i.e., "non-anomalous" areas).

Fifty soil samples were collected from these test pits based on field observations. Thirty-four soil samples were collected from anomalous (A) test pits, and 16 soil samples were collected from non-anomalous (N) test pits. Most of these samples were collected from areas that displayed fill material with debris, stains, and/or leachates during visual field observations.

The field program also advanced 52 membrane interface probes (MIP)/cone penetration tests (CPT), and installed 12 new, multi-level (nested) surficial aquifer wells, followed by groundwater sampling. MIP/CPT screening provided a vertical profile of electrical conductivity and VOCs in subsurface soils and groundwater, and identified the areas/sources of contamination that DPT soil and groundwater samples should be collected from; MIP/CPT screening also identified the areas in which new monitoring wells should be installed. This MIP/CPT investigation aided in the placement and installation of 31 monitoring wells, including shallow, intermediate, and deep monitoring wells MW-14I/D through MW-26S/I/D.

The "S" well screens were installed to a depth of approximately 30 feet and the "I" and "D" well screens were installed to approximate depths of 50 and 80 feet, respectively. In addition, two shallow and two intermediate wells were installed as pumping-test and observation wells (OW-1S/I and RW-1I/S) to support aquifer hydraulics testing. Well locations are shown in

Figure 2-16 (see wells installed 2007–2008). The existing and newly installed nested wells were sampled for target contaminant analyses.

As shown in Figure 2-17, the geophysical investigation showed suspected waste (i.e., metal containing materials) present over approximately 19 acres at the site. When areas inaccessible to the investigation but suspected of containing waste (the areas of Ponds 1 and 2 and east of the ponds) are included, the total impact area is estimated at approximately 25 acres. The investigation appeared to have delineated the extent of the waste in all directions.

The surficial-gamma survey results showed an average background reading of 6,600 counts per minute (cpm). Two areas showed significant positive deviation from that average, although the count rates were not high. These areas were investigated via test pits to confirm the geophysical investigation findings. These locations were found to contain clay rich soils in the subsurface, the likely source of the elevated gamma survey results.

Observation of the test pit excavations showed that, with few exceptions, most "A" pits showed signs of metallic and land fill materials, whereas the "N" pits were mostly clear. The debris and buried materials found at all pits included various metallic objects (i.e., pipes, wires, fences, concrete rebar, scraps, paint cans, and rusty, charred 55-gallon drums), glass bottles, wood, fiberglass, plastics, small batteries, concrete blocks, and rubble. In addition, stained or sludge-like sediment/soil, strong odors, and seepage water with a black or slightly reflective sheen were noted in several test pits. Anomalies were detected and evidence of debris and landfilling activity was observed in the following test pits: A4, A5, A6, A10, A11, A12, A14, A15, A17, N4, and N8 (see Figure 2-17).

To benchmark any exceedances, the analytical data results from the test-pit soil samples were compared against MDE residential and non-residential soil standards (MDE, 2008). VOC concentrations were low; there were no VOC exceedances of MDE soil standards were detected in any test-pit soil sample. TCE was detected in 41 samples at trace to low concentrations ranging from 1.0 to 9.9 µg/kg. The maximum TCE concentration was detected east of Pond 1 in sample N5-0304. VC and *cis*-1,2-DCE were similarly detected in test-pit soil samples at low concentrations, with *cis*-1,2-DCE concentrations in 22 samples ranging from 0.61 to 81.8 µg/kg (maximum in sample A5-0809), and VC concentrations in 17 samples ranging from

0.66 to 96.1 µg/kg (maximum in sample A1-0910). PCE was detected in four samples at concentrations ranging from 0.71 to 3.6 µg/kg.

BTEX were also detected in soil at low concentrations in 14 (xylenes) to 35 (toluene) samples. BTEX concentrations were higher than those detected for cVOCs, with the maximum concentrations of benzene (115 µg/kg), toluene (3,370 µg/kg), ethylbenzene (6,090 µg/kg), and xylenes (284 µg/kg) all above 96.1 µg/kg (the maximum VC concentration in sample A1-0910). The maximum concentrations of benzene, ethylbenzene, and xylenes were detected in test pit A1, west of the PHA and east of Taxiway Tango, at a sample depth of 9-10 feet. The maximum concentrations of toluene and naphthalene (2,750 µg/kg) were detected east of Pond 2, in sample A16-0910.

The MIP investigation found elevated electron-capture device (ECD) responses indicating cVOCs at 19 of 52 tested locations in 2007 (see locations 1–52 in Figure 2-18). cVOC impacts observed via the MIP testing appears to be bounded north, south, and west of the study area. Significant ECD readings in shallow vadose-zone soil were observed at four locations (MIP-57, MIP-58, MIP-61, and MIP-62) between Taxiway Tango and the runway.

The 25 soil and 20 groundwater samples collected from DPT locations confirmed the presence of cVOCs in the borings exhibiting elevated ECD responses. As shown in Figure 2-19, the maximum TCE concentration in soil was 7,680 µg/kg (MIP-58 at 10 feet below grade); however, only three TCE exceedances were observed in all test pit samples. As shown in Figure 2-20, the maximum concentration of primary cVOCs (TCE, *cis*-1,2-DCE, and VC) in groundwater was 78,530 µg/L at MIP-28 at 34–36 feet below grade; 68,600 µg/L of that total was due to TCE.; This concentration and those detected at multiple other borings exceed groundwater standards. Petroleum hydrocarbons were also detected in these samples but are not shown in the figure.

Sampling of groundwater monitoring wells confirmed cVOCs and pVOCs, metals, and 1,4-dioxane throughout a large portion of the investigation area, at multiple depths, and at high concentrations. The maximum TCE concentration (41,400 µg/L) was observed in well DMW-11I. The TCE-impacted area extends north to a section north of Pond 2, south to DMW-7I, and west to the area between Taxiway Tango and the runway. The maximum 1,4-dioxane concentration observed in a monitoring well sample was 1,800 µg/L (DMW-3S).

Substantial impacts from 1,4-dioxane appear isolated to the central portion of the site, extending north to MW-18, south to DMW-7, and west to DMW-9. The maximum perchlorate concentration observed in a monitoring well sample was 8 µg/L (DMW-7I). Perchlorate impacts in groundwater are generally confined to the area southeast of Pond 2. However, new monitoring wells were not analyzed for perchlorate. A wide range of metals exceeded MDE groundwater standards at locations throughout the site. Exceedances were observed for arsenic, barium, beryllium, cadmium, chromium, lead, nickel, selenium, vanadium, and zinc.

2.16 2008 GROUNDWATER MONITORING

Groundwater samples were collected in August–September 2008 at 69 existing and newly installed monitoring wells to provide an additional annual set of groundwater chemical data for the site (Tetra Tech, 2009b). Concentrations of cVOCs exceeded Maryland groundwater standards throughout a large portion of the investigation area, and at multiple depths. The maximum TCE concentration observed in a 2008 monitoring well sample was 29,000 µg/L, reported for upper surficial-aquifer well DMW-11S. Groundwater flow conditions and multiple VOC sources at the site have produced VOC-impacted groundwater extending to areas north of Pond 2, south to DMW-6I and DMW-7I, and west to the area between Taxiway Tango and the runway. cVOCs were detected at concentrations exceeding Maryland groundwater standards in samples from monitoring wells recently installed north and east of Pond 2 and south of pre-existing wells.

Concentrations of cVOCs in groundwater decreased substantially as compared to the 2004 analytical results for these chemicals. The reduction in TCE concentrations in 2008, and the high concentrations of chemical daughter products such as *cis*-1,2-DCE and VC, indicated that TCE degradation was occurring at the site. Concentrations of 12 metals exceeded groundwater standards in one or more groundwater samples. VOC contamination has not been fully delineated north–northwest of well clusters MW-14, MW-17, and MW-28; east of well clusters MW-14, MW-18, DMW-3, DMW-2, DMW-4, and DMW-5; west of DMW-11S; and south of well clusters MW-19 and MW-24.

The SVOC 1,4-dioxane was detected primarily in groundwater samples collected from the upper and intermediate surficial-aquifer zones. 1,4-Dioxane was co-located in areas containing the

highest cVOC concentrations, and occurred primarily near Pond 1 and the area east of Pond 1. The highest concentrations of 1,4-dioxane were 590 µg/L at well MW-16S, northwest of Pond 2, and 490 µg/L at well DMW-2A, east of Pond 1 near Frog Mortar Creek.

2.17 2008–2009 DEEP-GROUNDWATER INVESTIGATION

Previous groundwater sampling results indicate TCE at the base of the lower surficial aquifer, at concentrations ranging from 2,400 to 4,400 µg/L. At these concentrations, residual TCE-product, or dense non-aqueous phase liquids (DNAPL), may be in the lower surficial aquifer. DNAPL may be transported downward via gravity, or as dissolved constituents in groundwater in response to downward, vertical, hydraulic gradients.

In 2008, four deep wells (MW-27D and MW-29D through MW-31D: see Figure 2-16) were installed to 165 to 207 feet below grade to determine the thickness and extent of the clay underlying the lower surficial aquifer, and to determine if TCE had migrated below the lower surficial aquifer (Tetra Tech, 2009a). A fifth boring, for an intermediate surficial-aquifer well (MW-28I), was advanced 50 feet deep (see Figure 2-16). Constituents detected in lower surficial-aquifer groundwater, such as cVOCs, VOC-degradation products, and the SVOC 1,4-dioxane, were not detected in the deep-well groundwater samples. A few petroleum-related VOCs and SVOCs were detected in the deep groundwater samples at concentrations below MCLs. However, the VOCs and SVOCs detected are common laboratory contaminants and may have been artifacts of the laboratory analyses.

2.18 2009 GROUNDWATER MONITORING

In August through September 2009, groundwater samples were collected from six newly installed wells (wells MW-32S, MW-32I, MW-33S, MW-33I, MW-34S, and MW-34I) and 59 existing wells to provide data for the 2009 groundwater sampling round (Tetra Tech, 2010a). The wells installed in 2007–2008, and before 2008, are shown in Figure 2-16. These data describe then-current groundwater quality conditions at the facility, and were used to evaluate temporal trends of groundwater contaminants, and to evaluate remedial actions in subsequent studies. Groundwater samples were chemically analyzed for VOCs, 1,4-dioxane, perchlorate, metals, TPH-DRO, TPH-GRO, and several water quality indicators. Samples from the six newly

installed wells were also analyzed for SVOCs. Groundwater levels were also measured to provide data for groundwater contour maps.

The following summarizes the findings of the 2009 groundwater sampling and analyses:

- Groundwater flow in the upper, intermediate, and lower surficial-aquifer zones is generally northeast toward Frog Mortar Creek. However, local variations in the hydrology of the upper, intermediate, and lower surficial aquifer zones provide divergent flow locally at the center of the site, and flow toward the south at the southern end of the site.

- Concentrations of cVOCs exceeded Maryland groundwater standards throughout a large portion of the investigation area, and at multiple depths. The maximum TCE concentration for the round was 36,000 µg/L, reported for upper surficial aquifer well DMW-11S, in the TT Median Area. Multiple VOC sources at the site have resulted in VOC-impacted groundwater extending to areas north of Pond 2, south to DMW-6I and DMW-7I, and west to the area between Taxiway Tango and the runway.

- cVOCs were detected at concentrations exceeding Maryland groundwater standards in samples from monitoring wells that had recently been installed northwest of Pond 2. TCE was not detected in two new wells installed south of the DA plume MW-32S and MW-32I).

- Concentrations of cVOCs in groundwater are consistent with the 2008 results, and generally decreased substantially as compared to the 2004 chemical results.

- At six wells where groundwater samples were analyzed for natural-attenuation parameters, anaerobic reductive-dechlorination was evidenced by the TCE-breakdown products *cis*-1,2-DCE, *trans*-1,2-dichloroethene, and 1,1-dichloroethene. The presence of VC, ethane, and elevated chloride concentrations indicate that complete dechlorination may be occurring in the upper and intermediate surficial aquifer. However, the absence of detectable concentrations of VC, low concentrations of ethane and iron, a low groundwater pH, a high nitrate concentration, and a high oxidation-reduction potential indicate that slow or incomplete reductive dechlorination of lower-order cVOCs may be occurring in the lower surficial aquifer.

- VOC groundwater contamination was found at concentrations greater than groundwater standards at the current site boundaries to the north (wells MW-14I, MW-15S/I, MW-16S/I, MW-17I, and MW-28I), east (wells MW-14I, MW-18I/S, DMW-3S/I, DMW-4S/I/D, and DMW-5S/I), and west (wells MW-24I, DMW-11S, and MW-33S). Additional wells and groundwater sampling were recommended beyond the current site boundaries in these areas to define the VOC plume boundaries by concentrations less than the groundwater standards.

- Sampling results for wells DMW-6I/D and MW-32S/I indicate that the VOC groundwater-contamination is bounded along the southern portion of the site.

- The SVOC 1,4-dioxane was primarily detected in groundwater samples collected from the upper and intermediate surficial aquifer. 1,4-Dioxane is co-located in areas containing the highest concentrations of cVOCs, occurring primarily near Pond 1 and the area to the east. The highest concentrations of 1,4-dioxane were 1,100 µg/L at well DMW-3I east of Pond 1 near Frog Mortar Creek, and 790 µg/L at well MW-16S north of Pond 2.

- TPH-DRO was detected in more than half (57%) of the 2009 groundwater samples, at concentrations ranging from 150–1,300 µg/L (averaging 508 µg/L). TPH-GRO was detected in nearly all (96%) of the 2009 groundwater samples at concentrations ranging from 30–70,000 µg/L (averaging 4,425 µg/L). Most DRO and GRO concentrations exceeded the MDE criterion of 47 µg/L. The greatest concentrations were detected in wells DMW-20S (TPH-DRO) and DMW-9S (TPH-GRO) in the PHA near Pond 1. Substantially lower concentrations of TPH-DRO and TPH-GRO were reported for wells in the DA and TT Median.

- Perchlorate was detected in several groundwater samples at low concentrations not exceeding the Maryland groundwater standard. Two samples from DMW-4I and DMW-4D had concentrations exceeding the Maryland groundwater standard. These wells are east of Pond 1. During the 2007 sampling, three wells (DMW-4S, DMW-7I, and DMW-8S) had concentrations of perchlorate exceeding the Maryland groundwater criterion. Wells DMW-7I and DMW-8S are west–southwest of and near well cluster DMW-4S/I. Samples for perchlorate analysis were not collected in 2008.

- Concentrations of 11 metals exceeded the groundwater standards in one or more groundwater samples. Concentrations of manganese and iron exceed the standards most frequently, with the maximum concentrations exceeding the standards by more than a factor of 100. Concentrations of cadmium exceed the standard in nearly 20% of samples, with the maximum concentration exceeding the groundwater standard by more than two orders of magnitude. Concentrations of other metals (chromium, lead, mercury, and selenium) exceed standards in less than 10% of samples, ranging from one exceedance for selenium to three for lead. Dissolved lead and mercury concentrations did not exceed standards.

2.19 2009 REMEDIAL INVESTIGATION

Environmental and engineering data collected from 2000–2009 were evaluated together to describe and characterize the extent of soil, groundwater, and pond-sediment chemical contamination at the DRA. A detailed human health risk assessment (HHRA) and an ecological risk assessment (ERA) were conducted using the prior data to evaluate potential human health risks and potential risks to ecological receptors. The HHRA was updated in early 2012 (Tetra Tech, 2012b).

The remedial investigation (RI) evaluates previous geophysical surveys, test pits, soil borings, and soil sample chemical analyses to identify surface and subsurface soil contamination from buried fill material. These investigations identified approximately 25 acres of soil fill and debris beneath Taxiway Tango, extending east to the base of the embankment at Frog Mortar Creek. The fill material consists of up to 11 feet of soil, stained soil, and solid waste, the latter of which is comprised of concrete rubble and disposed industrial items such as batteries, decomposed drums, tires, paint cans, burnt items, sludge, buckets, glass, wood, etc. Four inert bombs were also uncovered in 2000 at TT Median Area Excavation 5 and removed from MSA. As described previously, soil borings up to 268 feet below grade have been advanced at the site to determine the hydrogeologic framework of the site, and to install groundwater monitoring wells.

Chemical analyses of numerous surface and subsurface soil samples indicate VOCs, SVOCs, PCBs, and several metals in soil at concentrations exceeding USEPA human health and ecological risk-based screening levels and MDE soil cleanup standards. The primary VOCs detected in soil samples were TCE, TCE-degradation products such as *cis*-1,2-DCE and VC, and BTEX. TCE is a chlorinated solvent used in industry to clean machinery and parts, and BTEX are volatile constituents of petroleum based fuels and lubricating oils. SVOCs detected in soil include polycyclic aromatic hydrocarbons (PAHs), which are a group of compounds derived from the combustion of materials. A subset of the 20 metals detected in soil at the site includes antimony, arsenic, cadmium, copper, total and hexavalent chromium, lead, mercury, nickel, and zinc.

Past dumping and backfilling have produced large contaminant plumes of VOCs and more limited plumes of SVOCs and metals in groundwater in the upper, intermediate, and lower portions of the surficial aquifer west of Taxiway Tango and extending to Frog Mortar Creek. The VOC plumes extend to an area more than 1,000 feet wide and 1,400 feet long (more than 30 acres) and up to 80 feet below grade. Concentrations of VOCs, SVOCs, and several metals exceeded drinking water and groundwater standards.

The primary VOCs detected in groundwater were TCE, *cis*-1,2-DCE, VC, and BTEX. The SVOC detected most frequently in groundwater at levels exceeding its groundwater screening-criterion was 1,4-dioxane. Metals found at concentrations exceeding groundwater

standards in 10% or more of samples were arsenic, beryllium, cadmium, iron, manganese, nickel, and vanadium. Concentrations of manganese and iron exceeded groundwater standards most frequently, at rates of 81% (iron) to 90% (manganese) of samples.

Chemical analyses of pond sediment samples indicated VOCs, SVOCs, PCBs, and several metals at concentrations exceeding USEPA human health and ecological risk-based screening levels and MDE soil cleanup standards. The primary VOCs detected in pond sediment samples were TCE, TCE-degradation products such as *cis*-1,2-DCE and VC, and BTEX. TCE was detected in four sediment samples in Pond 1 at high concentrations (3,300 µg/kg to 270,000 µg/kg). These concentrations indicate residual TCE product or DNAPL in Pond 1 sediment. BTEX was also detected in Pond 1 sediment samples at high concentrations (411,000 µg/kg to 467,115 µg/kg). Pond 1 is therefore considered a possible source of groundwater VOC contamination.

SVOCs detected in sediment included PAHs. Metals detected in pond sediment included arsenic, beryllium, cadmium, total chromium, hexavalent chromium, copper, lead, mercury, nickel, selenium, silver, and zinc. However, only arsenic, cadmium, total chromium, and hexavalent chromium were selected as metal chemicals of potential concern (COPC) in pond sediment. PCBs were detected, but their concentrations did not exceed its screening criterion. Concentrations of VOCs, SVOCs, metals, and associated exceedances of screening criteria for sediments are limited to the Pond 1 sediment samples. One metal (zinc) was detected in one of two pond water samples. No human health COPC were selected in the risk assessment based on surface water sampling results.

An HHRA evaluated risk to potential human receptors under current and likely future land uses, in accordance with USEPA and MDE guidelines. The HHRA considered receptor exposure under non-residential (e.g., industrial, recreational) land use scenarios. Although the site is not expected to be used for residential purposes in the foreseeable future, residential land uses were also evaluated. The HHRA also developed preliminary cleanup goals for environmental media and contaminants significantly contributing to the cancer risk and/or hazard index for each exposure pathway in a land use scenario for a given receptor group.

The predominant human health COPC for direct-contact exposure were cVOCs in soils, groundwater, and sediments; BTEX in soils and groundwater; substituted benzene compounds in soils and groundwater; PAHs in soils and sediments; and several metals in soil and groundwater (e.g., arsenic, cadmium, lead, copper, total and hexavalent chromium, nickel). Hexavalent chromium was detected in fewer than 50% of surface soil samples analyzed, in only one of 18 subsurface soil samples, and in three of four pond-sediment samples. Additionally, concentrations detected in surface soils indicate that hexavalent chromium is not the predominant chromium species in site soils (a comparison of hexavalent chromium concentrations to total chromium concentrations indicates that only 1.5 to 4.4% of total chromium is in the hexavalent state). Hexavalent chromium was selected as a COPC for soil and sediment. The quantitative risk evaluation conservatively assumes that 1% of total chromium in soil and sediment is present as hexavalent chromium.

Direct ingestion of groundwater at the DRA is expected to be limited to exposures that would occur under a future residential scenario. Construction workers would likely be exposed to groundwater during construction/excavation activities via dermal contact, incidental ingestion, or via inhalation of volatiles in the groundwater. Industrial workers would not be expected to encounter groundwater, as it is not currently used as a source of potable or industrial water at the site, nor is such use likely in the future. The groundwater user survey also indicated the possibility of wells near MSA, but these wells, if they exist, would be upgradient of MSA, or have been reported abandoned and no longer used.

Trespassers/visitors could incidentally ingest surface water while on site. However, only one surface water chemical, zinc, was detected, and no COPC had been selected for surface water. Therefore, risks associated with trespasser exposures to surface water were not quantitatively evaluated in the 2009 HHRA. The predominant COPC for the vapor-intrusion pathway were TCE, VC, and *cis*-1,2-DCE. Many of these organic and inorganic chemicals were also selected as COPC to evaluate chemical migration from soils to groundwater.

The ERA was conducted in accordance with USEPA guidelines to evaluate risk to potential ecological receptors in surface soil, sediment, and groundwater (evaluated as surface water). The central area of the site northwest of Pond 1 appears to be the area of largest ecological risk, based

on current sampling data. Surface soil ecological COPC for invertebrates and plants include TCE, *cis*-1,2-DCE, antimony, chromium, copper, manganese, molybdenum, and zinc. PAHs were COPC only for soil invertebrates, whereas cadmium, lead, nickel, and selenium were retained as COPC only for plants. VOCs, PAHs, PCBs, and several metals were retained as COPC for Pond 1 sediment. For groundwater evaluated as surface water, several VOCs and metals exceeded surface water criteria, even after a dilution factor as high as 50-fold was applied to chemical concentrations. Further evaluation of surface soil, using less conservative exposure assumptions, identified several metals (mercury, cadmium, lead, and molybdenum) as risks to wildlife (e.g., quails, shrews, robins).

2.20 2010 OFF-SITE PIEZOMETER INSTALLATION AND WATER LEVEL MONITORING

In March 2010, six off-site piezometers (PZ-1S/I/D and PZ-2S/I/D) were installed on two privately owned properties (3300 and 3301 Edwards Lane) on a peninsula of Bowleys Quarters, east of the DRA on the eastern shoreline of Frog Mortar Creek (Tetra Tech, 2010b). The locations of the piezometers are shown in Figure 2-16. Groundwater levels in the six piezometers and three DRA wells, and creek levels in Frog Mortar Creek, were monitored and recorded for one month. These data were used to better understand off-site groundwater characteristics, including the extent to which the surficial aquifer at the monitoring points is tidally influenced and the relationship between vertical hydraulic gradients (if present) and DRA groundwater characteristics. These data were also used to model DRA groundwater.

The piezometers were screened at depths of approximately five to 15 feet (shallow zone), 29 to 39 feet (intermediate zone) and 42 to 52 or 46 to 56 feet (deep zone) below grade. Screened intervals for the piezometers were set at elevations nearly equivalent to wells installed in the eastern portion of the DRA. The six newly installed piezometers and three DRA wells (DMW-4S, DMW-4I, and DMW-4D) were fitted with electronic water-level data-loggers/pressure transducers to record water-level data. A data logger was also placed in a locked perforated-steel standpipe installed at 3300 and 3301 Edwards Lane to record creek levels during the same period as the piezometers and DRA wells. A data logger that records atmospheric barometric pressure was also installed in well DMW-8S at the DRA site to record barometric pressure fluctuations during the monitoring period.

Groundwater levels, surface water levels, and barometric pressure were recorded for one month from June 2–July 6, 2010. Water levels in wells DMW-3S/I/D, the off-site piezometers, and Frog Mortar Creek were also collected for 30 days from March to April 2011 (Tetra Tech, 2011b). These studies indicate that groundwater levels in the surficial aquifer are influenced by both tides and barometric pressure.

2.21 2010 GROUNDWATER MONITORING

Groundwater and Frog Mortar Creek surface water were sampled in July 2010 to provide additional rounds of groundwater and surface water quality data (Tetra Tech, 2010c). Groundwater samples were collected from six wells installed in 2009 (wells MW-32S, MW-32I, MW-33S. MW-33I, MW-34S, and MW-34I) and 59 wells installed before 2009. These monitoring wells are shown in Figure 2-16. Groundwater levels in wells were also measured to provide data for groundwater contour maps.

Groundwater and surface water samples were chemically analyzed for VOCs, 1,4-dioxane, metals, perchlorate (a propellant constituent), and field water quality indicators. Groundwater samples were also analyzed for TPH-DRO, TPH-GRO, cyclotrimethylene-trinitramine (also known as Royal Demolition Explosive [RDX]), radium-226, radium-228, and natural-attenuation assessment (NAA) parameters. The following summarizes the findings of the groundwater and surface water sampling and analyses:

- Groundwater in the upper, intermediate, and lower surficial aquifer zones flows northeast, to Frog Mortar Creek.
- Concentrations of cVOCs exceed Maryland groundwater standards throughout a large portion of the investigation area and at multiple depths. The maximum TCE concentration observed in a monitoring well sample is 36,000 µg/L, reported for upper surficial aquifer well DMW-11S.
- Generally, concentrations of cVOCs in groundwater were consistent with the 2009 results. Time-series plots of VOCs in source areas and downgradient locations indicate a general decrease in VOC concentrations since monitoring in the early 2000s. However, VOC concentrations in the source area for the TT Median Area plume (DMW-11S) have remained steady or increased slightly since 2003.
- At six wells where groundwater samples were analyzed for NAA parameters, anaerobic reductive-dechlorination is evidenced by the TCE-breakdown product *cis*-1,2-DCE. The

presence of VC, methane, ethene, and elevated chloride concentrations indicates that complete dechlorination may be readily occurring in the upper and intermediate surficial aquifer zones. However, lower relative concentrations of VC, methane, ethene, low groundwater pH, and high oxidation-reduction potential indicate that slow or incomplete reductive dechlorination of lower-order cVOCs may be occurring in the lower surficial aquifer zone.

- cVOCs were at concentrations greater than groundwater standards at perimeter wells to the north (wells MW-14I, MW-15S/I, MW-16S/I, MW-17I, and MW-28I), east (wells MW-14I, MW-18I/S, DMW-3S/I, DMW-4S/I/D, and DMW-5S/I), and west (wells MW-24I, DMW-11S, and MW-33S).

- Sampling results for wells DMW-6I/D and MW-32S/I indicate that the VOC groundwater contamination is bounded along the southern portion of the site.

- The SVOC 1,4-dioxane was detected primarily in groundwater samples from the upper and intermediate surficial aquifer zones. 1,4-Dioxane was co-located in areas containing the highest concentrations of cVOCs, primarily near Pond 1 and the area to the east. The highest concentrations of 1,4-dioxane were east of Pond 1 near Frog Mortar Creek at wells DMW-2A (590 µg/L), DMW-3S (480 µg/L), and DMW-3I (390 µg/L). 1,4-Dioxane was detected at a concentration of 1.8 µg/L at Frog Mortar Creek surface water sampling location SW38, nearest the DRA; however, this concentration is less than the human health screening criteria and state advisories/standards for drinking water.

- TPH-DRO was detected in 70% of the 2010 upper surficial aquifer groundwater samples, at concentrations ranging from 78–2,000 µg/L (averaging 473 µg/L). TPH-GRO was detected in slightly more than half (59%) of the 2010 upper surficial aquifer groundwater samples, at concentrations ranging from 34–55,000 µg/L (averaging 4,349 µg/L). Most DRO and GRO concentrations exceed the MDE criterion of 47 µg/L. The greatest concentrations of DRO and GRO were detected in well DMW-9S, in the PHA and Pond 1 Area. Substantially lower concentrations of TPH-DRO and TPH-GRO were reported for groundwater in the DA and TT Median Area.

- Perchlorate and the explosive RDX were not detected in the DRA groundwater samples.

- Concentrations of 11 metals exceeded groundwater standards in one or more groundwater samples. Concentrations of iron and manganese exceeded standards most frequently, with the maximum concentrations of these two metals exceeding standards by more than a factor of 100. Concentrations of cadmium exceed the standard in nearly 20% of the samples, with the maximum concentration of 833 µg/L exceeding the groundwater standard by more than two orders of magnitude. Arsenic, beryllium, nickel, and vanadium concentrations also exceed standards. However, the maximum concentration of vanadium is less than two orders of magnitude than the groundwater standard, and the maximum levels of arsenic and nickel are less than 10 times the standards. Concentrations of metals (such as chromium, lead, mercury, and selenium) exceeded standards in less than 10% of samples, ranging from four exceedances for chromium to one exceedance each for

selenium and mercury. Dissolved lead and mercury concentrations (i.e., for filtered samples) did not exceed standards.

- Radium-228 and combined radium-226/228 concentrations exceeded the groundwater standard in samples at intermediate and deep surficial-aquifer wells. Radium-228 concentrations exceeded the groundwater standard of 5 picoCuries per liter (pCi/L) in samples from wells DMW-3I (7.53 pCi/L), DMW-6I (11.6 pCi/L), and DMW-6D (7.82 pCi/L). The combined radium-226/228 concentration in the sample from well DMW-3D (6.30 pCi/L) also exceeded the groundwater standard. Combined radium-226/228 concentrations for wells DMW-3I, DMW-6I, and DMW-6D that exceeded the groundwater standard are 8.264, 12.046, and 9.53 pCi/L, respectively. Concentrations of radium-226, radium-228, or combined radium-226/228 did not exceed the groundwater standard in samples collected from the upper surficial aquifer (MW-3, DMW-6S, DMW-16S), deep confined aquifer (MW-27D, and MW-29D), or the third well sampled in the intermediate surficial aquifer (MW-16I).

- The primary VOC groundwater-contaminants TCE, *cis*-1,2-DCE, VC, and 1,4-dioxane were detected in Frog Mortar Creek surface sampling location SW38, along the Frog Mortar Creek shoreline northeast of the DRA VOC plumes. The results indicate that VOC-contaminated groundwater from the DRA was discharging to Frog Mortar Creek.

2.22 2010 SUPPLEMENTAL DESIGN CHARACTERIZATION INVESTIGATION

A supplemental investigation of the DRA was conducted in 2010 to fill data gaps and provide additional information to complete a remedial design (Tetra Tech, 2011a). The source of VOCs in the DMW-11S area had not been fully characterized or delineated before this investigation. Well DMW-11S historically contained the highest concentrations of VOCs in groundwater at the DRA (TCE concentrations greater than 30,000 µg/L), and was considered one of the VOC source areas at the site. TCE and other VOCs have not been delineated north and west of well MW-33S/I, where concentrations of TCE and TCE-degradation products exceeded Maryland groundwater standards. Supplemental activities included topographic mapping, wetland identification and mapping, passive soil-gas sampling and analysis, synoptic and long-term groundwater level monitoring, aquifer-hydraulics testing, groundwater modeling, and geophysical surveying. Results of the long-term groundwater monitoring and groundwater modeling update are in documents separate from the supplemental report.

The topographical survey area spanned southeast of Taxiway Tango to the MDANG Jet Engine Test Pad, and from the eastern side of Taxiway Tango to the western shoreline of Frog Mortar Creek. The survey shows that site topography ranges from flat to gently sloping to the northeast

toward Frog Mortar Creek. In the northern portion of the DRA, land elevations range from approximately 11 feet above North American Vertical Datum of 1988 (NAVD88) near the runway to approximately seven feet above NAVD88 at Pond 2.

Land elevations are approximately 20 feet above NAVD88 at a mounded area near the embankment of Frog Mortar Creek in the southeastern portion of the site. The steep embankment, comprised of fill placed there as part of airport construction, runs along the Frog Mortar Creek shoreline and through the northern edge of the wetlands. The topography is flat to gently sloping near a large lobate region between the wetlands and the DRA. A wetlands delineation survey was conducted in the same area as the topographic survey. The survey results were used to evaluate the potential reduction or increase in wetland functions and values associated with any remediation project, as well as the value of any wetland functions that may need to be replaced for compensatory mitigation.

A passive soil-gas survey to evaluate VOCs in soil was conducted near Taxiway Tango and the airport runway, where access for soil borings and well installations is limited. One hundred and one GORE Sorber™ passive soil-gas samplers were installed four feet below grade near Taxiway Tango and the airport runway, as well as at locations northwest, west, and southwest of wells DMW-11S and MW-33S. Of the 99 passive soil-gas samples analyzed for VOCs, TPH, and diesel alkanes (two sorbers were damaged by animals), the maximum soil-gas masses of TCE (51.51 µg) and *cis*-1,2-DCE (73.12 µg) were reported approximately 180 feet northwest of well MW-33S. Relatively low masses of TCE ranging from 0.03–0.10 µg were detected on the western side of Taxiway Tango.

Similar to the cVOCs, the highest levels of BTEX, naphthalene, 2-methylnaphthalene, and TPH were found west and northwest of MW-33S, with lower masses in the area on the western side of Taxiway Tango. These results indicate a contamination source of either a weathered gasoline or a heavier petroleum product, such as diesel or jet fuel. Despite the low relative masses of diesel-range alkanes in the passive samples, a diesel/jet fuel source cannot be ruled out due to the presence of diesel-range organics at MW-33S. The VOC source area was readily determined from the soil-gas results.

Supplemental study activities also included a round of measured synoptic groundwater levels at the DRA monitoring wells. These data were used to construct groundwater-elevation contour maps. The results of the water-level study indicate that groundwater flows northeast toward Frog Mortar Creek in the upper, intermediate, and lower surficial aquifer zones, and northwest to southeast in the deep confined aquifer.

Slug tests were conducted on 17 wells (16 surficial aquifer wells and one deep confined aquifer well) in the DRA. Slug test analyses indicate hydraulic conductivities for the lower surficial-aquifer wells ranging from 2.74 ft/day at MW-18D to 25.5 ft/day at MW-15D with a geometric mean (excluding MW-17D and MW-26D, which are both set in relatively clayey lithology) of 8.4 ft/day (arithmetic mean of 11.3 ft/day). The 2003 and 2010 slug test results for wells DMW-7I and DMW-8D indicate comparable results (i.e., same order of magnitude estimates) for both the solid-slug and pneumatic-slug test methods.

The MSA groundwater modeling study addressed the development, calibration, and application of a groundwater flow model to develop remediation alternatives for addressing VOCs and 1,4-dioxane contamination in groundwater at DRA. The remediation alternatives were based on the primary objectives of controlling and capturing contaminated groundwater to prevent its migration into off-site areas and toward Frog Mortar Creek. The model results indicate that the simulated hydraulic-barrier wells form an effective hydraulic barrier for upgradient and contaminated groundwater, without inducing significant inflow of higher salinity water from Frog Mortar Creek into the aquifer. In the remedial scenario simulations, the model predicts that only a very small percentage of extracted groundwater would originate from Frog Mortar Creek, and thus its salinity would be significantly diluted by fresh groundwater.

2.23 2011 GROUNDWATER MONITORING

Groundwater sampling of 65 DRA wells was conducted in May–June 2011 (Tetra Tech, 2012e). Groundwater was sampled to provide a current round of groundwater-quality data for selected monitoring wells, to evaluate time-based trends of on-site groundwater plumes, and to evaluate the natural attenuation of the chemicals of concern in groundwater at the site. Samples were chemically analyzed for VOCs, 1,4-dioxane, total and dissolved metals, perchlorate (a propellant constituent), and field water-quality indicators. Selected groundwater samples were also

analyzed for TPH-DRO, TPH-GRO, radium-224, radium-226, radium-228, haloacetic acids, and natural attenuation assessment parameters.

Concentrations of TCE, *cis*-1,2-DCE, and VC for the upper, intermediate, and lower surficial aquifer zones are shown in Figures 2-21 through Figure 2-23, respectively. Benzene concentrations are shown in Figure 2-24. Findings of the 2011 VOC groundwater sampling and analyses include the following:

- Consistent with the 2010 results, concentrations of cVOCs exceed Maryland groundwater standards throughout a large portion of the investigation area, and at multiple depths. The four highest TCE concentrations observed were 13,000 µg/L in the eastern part of the site at well DMW-2A, 12,000 µg/L in wells DMW-3I (near DMW-2A) and DMW-11S (TT Median Area), and 11,000 µg/L in the eastern part of the site at well DMW-18I.

- cVOCs were at concentrations greater than groundwater standards at current site perimeter wells to the north (wells MW-14I, MW-15S/I, MW-16S/I, MW-17I, and MW-28I), east (wells MW-14I, MW-18I/S, DMW-3S/I, DMW-4S/I/D, and DMW-5S/I), and west (wells MW-24I, DMW-11S, and MW-33S).

- VOCs were not detected at wells DMW-6I/D, MW-6, and MW-32S/I, which indicates that VOC groundwater contamination is bounded along the southern portion of the site.

- Time-series plots of cVOCs in source areas and downgradient locations indicate a general decrease in cVOC concentrations since monitoring began in the early 2000s. VOC concentrations in the source area for the TT Median Area plume (well DMW-11S) had remained steady until 2010, but decreased from the 2010 concentrations by more than 50% to historical lows for TCE and *cis*-1,2-DCE in 2011.

- Concentrations of benzene exceeding the Maryland groundwater standard were limited to wells in the PHA (e.g., DMW-9S/I/D, MW-26S, and MW-20S, DMW-1B), wells east of Pond 1 (DMW-2S), and west of Pond 2 (MW-28I and MW-16S). Slightly more than half of the benzene exceedances (five of nine exceedances) were in the upper surficial aquifer, or "S," wells.

2.24 2011 COMPASS ROSE SOIL INVESTIGATION

The 2011 Compass Rose area soil investigation (Tetra Tech, 2012f) included surface and subsurface test pits and soil tests to evaluate any fill, debris, and soil contamination south of the DRA. Four test pits (A45 to A48; see Figure 2-25) were excavated on June 10, 2011 to evaluate possibly buried materials/debris at geophysical anomalies locations A through D (which had been identified in the 2010 geophysical survey) (Tetra Tech, 2012f). The test pits were extended

downward to the depth of fill material or groundwater, or until the test pit reached 10 feet below grade.

A sample of excavated soil from each test pit was screened to characterize the lithology, make visual observations (e.g., staining, discoloration etc.), and check for odors. Soil was also screened for VOCs using a portable PID. No debris or evidence of soil impacts were observed in the test pits; therefore, only one soil sample was collected from the lowest depth of each test pit. The four soil samples collected (one from each test pit) were chemically analyzed for VOCs, SVOCs, PCBs, total metals, TPH-DRO and TPH-GRO.

Two metals (chromium and vanadium) were detected in three or more of the soil samples at concentrations exceeding MDE residential soil standards, but less than the non-residential criteria. Detected concentrations of chromium and vanadium in all samples were less than, or within a similar range (i.e., same order of magnitude) as, their corresponding MDE anticipated typical concentrations (ATC) for metals in eastern Maryland soils. Arsenic was detected in all four soil samples at concentrations exceeding residential and non-residential standards, and the MDE ATC. Benzo(a)pyrene was detected in one soil sample (DR-TP-A45-08) at a concentration slightly greater than the residential soil criterion. Concentrations of all other detected constituents (six VOCs, five SVOCs, 10 metals, and TPH-DRO) were below their screening criteria. PCBs and TPH-GRO were not detected in any of the June 2011 test-pit soil samples. The chemical data offer no evidence that a significant release has occurred.

Analytical data and visual observations during test pit excavations support the conclusion that a release of hazardous materials has not occurred in the investigated areas of the Compass Rose. Waste debris and impacted soils were not observed in any test pits, and laboratory analyses of soil samples indicate no evidence of a hazardous constituent release. The results of the physical and chemical analyses of test pit soils support the recommendation that no additional assessment of these four areas is necessary.

2.25 2011 DUMP ROAD AND RUNWAY AREA SOIL AND GROUNDWATER INVESTIGATION

A June–July 2011 investigation of the DRA and runway area of MSA characterized subsurface conditions and assessed possible soil and groundwater chemical contamination (Tetra Tech, 2012g). The study included the following activities:

- advanced 20 MIP borings (MIP-76 to MIP-95) to screen for cVOCs and pVOCs in soil and groundwater in the northwestern and western portions of the DRA
- advanced 10 soil borings using DPT in the northwestern and western portions of the DRA and collected 20 soil samples for chemical analyses for VOCs, SVOCs, PCBs, total metals (including mercury), TPH-DRO, and TPH-GRO
- installed six two-inch-diameter groundwater monitoring wells (MW-30I and MW-35S through MW-39S) to approximately 20 to 40 feet below grade
- collected and analyzed groundwater samples for VOCs, SVOCs, PCBs, total metals, TPH-DRO, and TPH-GRO from the six newly installed wells

The locations and results of the MIP and DPT soil samples are shown in Figure 2-26 and 2-27, respectively. The newly installed well where primary VOCs were detected are shown in Figure 2-28. The following summarizes the investigation results:

- MIPs identified possible cVOCs at seven locations (Figure 2-26), with cVOCs considered highly elevated at four locations: MIP-84, MIP-85, MIP-86, and MIP-89. pVOCs were detected at two locations (MIP-78 and MIP-84), but at levels not considered highly elevated.
- Detected VOCs in two soil samples (Figure 2-27), SVOCs in eight samples, and TPH-DRO in four samples exceeded MDE residential soil standards. Of these results, one VOC, five SVOCs, and two TPH-DRO concentrations also exceeded the non-residential soil standards.
- The VOC exceeding both residential and non-residential standards in soil is TCE, detected at a depth of 10 feet below grade in DR-SB27, in an area where elevated TCE results had been detected in soil-vapor samples in 2010. TPH-DRO in the sample collected at two feet below grade in this boring (DR-SB27) also exceeded residential and non-residential criteria.
- The soil boring location in which concentrations of five SVOCs exceeded both residential and non-residential criteria, DR-SB32 is in an area of probable fill between the runway and Taxiway F. The detected TPH-DRO concentration at SB-32 also exceeded residential and non-residential criteria. The detected VC concentration exceeded only its residential

criterion in the soil sample collected at 14 feet below grade in DR-SB31. This result may indicate soil impacts resulting from groundwater. Moist soils were encountered at depths of six feet and below in that boring, and an unidentified odor was detected in soils collected from 10 feet below grade.

- Antimony, arsenic, cadmium, chromium, and vanadium were detected in one or more soil samples at concentrations exceeding MDE residential-soil standards. Concentrations of arsenic in 12 soil samples also exceeded the non-residential standard. Except for arsenic in several samples, cadmium and chromium in DR-SB29, and an antimony concentration for DR-SB32, all detected metals concentrations were less than or comparable to their MDE ATC values. Although the elevated cadmium and chromium concentrations in DR-SB29 exceeded their ATCs, their levels were still less than their respective non-residential standards. Arsenic is commonly detected throughout the area at relatively high concentrations, but no evidence has been found supporting an origin related to historical site use. The detected metals results were therefore interpreted as representative of typical metals concentrations in eastern Maryland soils.

- TCE at wells MW-30I and MW-39S was detected in groundwater samples at concentrations exceeding the Maryland groundwater standard (Figure 2-28). Although not shown in the figure, TPH-DRO was detected at well MW-39S (east of Pond 1) at a concentration of 3,000 µg/L, which exceeded the MDE groundwater standard by more than a factor of 60. Detected TPH-DRO concentrations also exceeded the MDE standard in groundwater samples from MW-35S and MW-37S. The detected TPH-GRO concentration in MW-30I (from the southern portion of Taxiway Tango) also exceeded its MDE groundwater standard.

2.26 INTERIM REMEDIAL ACTION/FEASIBILITY STUDY FOR DUMP ROAD AREA GROUNDWATER

An interim remedial action (IRA)/feasibility study (FS) for the groundwater operable unit at the DRA was prepared and submitted in 2012 (Tetra Tech, 2012h). That report recommended implementation of a groundwater pump-and-treat system that includes:

- installation and operation of 16 extraction wells along Frog Mortar Creek to prevent migration of contaminated groundwater to the creek

- installation and operation of an *ex situ* groundwater treatment system to treat extracted groundwater before discharge

- an option to treat high concentration areas via groundwater recirculation with amended groundwater to promote *in situ* bioremediation

The 30% design for implementation of the recommended alternative described above included the preliminary design of the pump-and-treat system.

2.27 2011-2012 DUMP ROAD AREA BENCH-SCALE TREATABILITY STUDY TESTING

In late 2011 and early 2012, a bench–scale treatability study was conducted for the DRA to determine design operational parameters for metals removal and advanced oxidation processes using representative groundwater samples collected from the site (Tetra Tech, 2012i). The results of the bench-scale study were used to:

- Assess processes that will be effective in treating the site groundwater
- modify the process design of the groundwater treatment system
- establish optimal operating process parameters
- estimate electrical usage and chemical usage
- support development of equipment specifications for the 50% design effort.

Five processes were selected for bench–scale testing including: 1) conventional pre-treatment; 2) advanced oxidation with ozone-hydrogen peroxide process (APTwater, Inc.); 3) advanced oxidation with ultraviolet light–titanium dioxide (Purifics ES, Inc.); 4) proprietary pre-treatment process (CFFeR - Purifics); and 5) ion-exchange testing for metals removal polishing step. Additional advanced oxidation vendors (utilizing ultraviolet light and hydrogen peroxide) were also considered, but were not selected either due to lack of vendor interest or inability to meet critical schedule milestones.

The study recommended using Purifics ES, Inc.'s Photo-Cat™ advanced oxidation process for the following reasons:

- The Purifics ES, Inc. advanced oxidation process has been shown to be successful at other Lockheed Martin sites and, based on testing, will meet the DRA's National Pollutant Discharge Elimination System standards.

- Lockheed Martin-owned Purifics ES, Inc. equipment is also available for re-use (from another Lockheed Martin site), an important cost and sustainability consideration.

- The HiPOx™ process forms bromate at concentrations exceeding its maximum contaminant level (MCL); process adjustments to counteract this can have unintended consequences. For example, higher doses of hydrogen peroxide can control bromate, but may result in unacceptably high concentrations of hydrogen peroxide in the plant effluent, which would entail additional treatment to remove peroxide. Although APTwater, Inc. has been able to control bromate-byproduct production at other sites,

additional testing was required to confirm this at this site. This additional testing made it apparent that trying to find a balance between effective treatment and control of bromate can be challenging. Should this process be used in the full-scale system, it may require some fine-tuning of the three HiPOx™ process variables during startup: (a) the ozone dose, (b) the hydrogen peroxide to ozone molar ratio, and (c) the number of injectors.

- The APTwater, Inc. system is more complicated, requiring six process elements (i.e., reactor skid, oxygen generator, chiller, ozone generator, hydrogen-peroxide feed system, and ozone-destruct system) for its operation. The Purifics Photo-Cat™ process requires only one skid.

2.28 2012 MARYLAND AIR NATIONAL GUARD SOIL VAPOR AND INDOOR AIR INVESTIGATION

In January 2012, Tetra Tech sampled 22 temporary soil vapor probes aligned in north–south transects in key areas of the MDANG Munitions Area using direct push technology (Tetra Tech, 2012j). Additionally, three indoor air quality samples were collected inside two buildings, including an office and a conference room, and inside a maintenance building in the MDANG Munitions Area. The locations of the soil vapor and indoor air samples with results exceeding the screening criteria are shown in Figures 2-29 and 2-30. The soil vapor and air samples were analyzed for VOCs. The results of the soil vapor and indoor air quality investigation did not identify any regulatorily unacceptable human health risks posed to site workers by exposure to VOCs detected in soil vapor. Soil gas samples from the Munitions Area, directly downgradient of several DRA wells, show no TCE, *cis*-1,2-DCE, or VC concentrations above their respective screening criteria.

2.29 2012 GROUNDWATER MONITORING

Groundwater sampling of 72 DRA wells was conducted in April–August 2012 (Tetra Tech, 2013a). Groundwater was sampled to provide a current round of groundwater-quality data for selected monitoring wells, to evaluate time-based trends of on-site groundwater plumes, assess the use of passive diffusion bag (PDB) samplers, and to evaluate the natural attenuation of the chemicals of concern in groundwater at the site. Samples were chemically analyzed for VOCs, 1,4-dioxane, total and dissolved metals, perchlorate (a propellant constituent), and field water-quality indicators. Selected groundwater samples were also analyzed for TPH-DRO, TPH-GRO, radium-228, total radium, haloacetic acids, RDX, and natural attenuation assessment parameters.

Concentrations of TCE, *cis*-1,2-DCE, and VC for the upper, intermediate, and lower surficial aquifer zones are shown in Figures 2-31 through Figure 2-33, respectively. Benzene concentrations are shown in Figure 2-34. Findings of the 2012 VOC groundwater sampling and analyses include the following:

- Consistent with the 2011 results, concentrations of cVOCs exceed Maryland groundwater standards throughout a large portion of the investigation area, and at multiple depths. The two highest TCE concentrations observed in 2012 were 16,000 and 11,000 µg/L, reported for upper surficial aquifer wells DMW-11S (Taxiway Tango Median Area) and DMW-2A/DMW-18I (eastern part of the site near Frog Mortar Creek).

- cVOCs were at concentrations greater than groundwater standards at site perimeter wells to the north (wells MW-14I, MW-15S/I, MW-16S/I, MW-17I, and MW-28I), east (wells MW-14I, MW-18I/S, DMW-3S/I, DMW-4S/I/D, and DMW-5S/I), and west (wells MW-24I, DMW-11S, and MW-33S).

- Time-series plots of cVOCs in source areas and downgradient locations indicate a general decrease in concentrations since monitoring began in the early 2000s. VOC concentrations in the source area for the Taxiway Tango Median Area plume (well DMW-11S) had remained steady until 2010, but then decreased from the 2010 concentrations by more than 50% to historical lows for TCE and *cis*-1,2-DCE in 2011 and 2012.

- Detected VOCs results in samples obtained via low flow purging and PDBs are generally comparable. Low-flow samples and the bag midpoint and screen bottom samples do not indicate substantial vertical profiling of VOCs. However, VOC concentrations in the screen top bag samples were consistently lower than the low-flow samples collected at the same depth. For the midpoint and bottom samples, the low-flow pumping samples generally provided lower concentrations than the bag samples. The low-flow and bag results compare more favorably for higher volatile organic compound concentrations.

- The SVOC 1,4-dioxane was detected primarily in groundwater samples collected from the upper and intermediate surficial aquifer zones and is co-located in areas containing the highest concentrations of cVOCs, primarily near Pond 1 and the area east of Pond 1 (wells DMW-2A at 300 µg/L and DMW-3I at 230 µg/L), and west of Pond 1 at wells MW-20S (240 µg/L) and DMW-9I (150 µg/L).

- Concentrations of 10 metals exceeded groundwater standards in one or more surficial aquifer groundwater samples. Total iron, total manganese, vanadium, arsenic, cadmium, nickel, and cadmium exceed standards most frequently. The highest concentrations of cadmium are co-located with high levels of VOCs in the surficial aquifer at wells DMW-1A (maximum of 1,100 µg/L), DMW-1B, DMW-8I, DMW-8D, DMW-2A, DMW-2S, MW-18I, and DMW-3I, all of which are south and east of Pond 1.

- Hexavalent chromium was detected in only eight of 71 groundwater samples, with a maximum concentration of 0.547 µg/L. Its concentrations do not exceed the MDE groundwater standard.

- TPH-DRO and TPH-GRO were detected in 22% and 50% of the 2012 upper surficial aquifer groundwater samples, respectively. Most concentrations exceeded the MDE groundwater standard of 47 µg/L. The highest TPH-DRO and TPH-GRO concentrations were detected in wells DMW-11S (DRO) and DMW-9S (GRO), in the Taxiway Tango Median Area and Petroleum Hydrocarbon and Pond 1 Area, respectively. Substantially lower concentrations of diesel-range organics and gasoline-range organics were reported for groundwater in the Drum Area.

- Perchlorate was detected in 14 groundwater samples. However, only one of these concentrations (4.6 µg/L at DMW-4I) exceeds the MDE groundwater standard of 2.6 µg/L. Haloacetic acids and RDX were not detected in the three and nine groundwater samples analyzed, respectively, for these compounds.

- Radium-228 and total radium were detected in eight of 11 groundwater samples. Radium-228 concentrations exceed the MDE groundwater standard in one sample each from the intermediate surficial aquifer at wells DMW-3I and DMW-6I, and the deep surficial aquifer well at DMW-6D. The total radium concentrations for wells DMW-6I and DMW-6D also exceed the MDE groundwater standard.

2.30 2012 DUMP ROAD AREA GEOTECHNICAL INVESTIGATION

In July 2012, a subsurface and geotechnical investigation was conducted at the DRA to evaluate subsurface conditions within the footprint of a proposed groundwater treatment facility, establish foundation design criteria and recommendations for design of the treatment building foundations, and provide pertinent geotechnical site recommendations for construction (Tetra Tech, 2013c). Environmental (i.e., chemical) characterization testing was performed on eleven composite soil samples collected from nine test pits. Soil samples were analyzed for VOCs, SVOCs, PCBs, TPH-DRO and TPH-GRO, metals, corrosivity (pH), ignitability, and toxicity characteristic leaching procedure (TCLP).

Nine soil borings (SB-37 through SB-45) were advanced within the area proposed for the treatment facility. The horizontal location and surface elevation of each soil boring were land-surveyed subsequent to the investigation. These test borings were advanced to collect representative soil samples and to determine subsurface soil and groundwater conditions. One boring (SB-41) was advanced to a depth of 76 feet; four borings (SB-37, SB-39, SB-43, and

SB-45) were advanced to a depth of 61 feet; and the remaining four borings (SB-38, SB-40, SB-42, and SB-44) were advanced to 46 feet.

Results of the investigation were summarized in the *Geotechnical Subsurface Investigation Report, Dump Road Area Interim Remedial Action Treatment Building* (Tetra Tech, 2013c). Test pit and soil boring locations are shown in Figure 2-35. The depths of the test pits ranged from 11 feet to 16 feet below grade. Fill materials were encountered in all of the test pits, with concrete, glass, brick, metal wire waste, and wood waste, including stumps, processed wood, and burnt wood observed in some of the test pits.

The western line of test pits (A73, A74, and A75) included fill containing obvious waste-derived materials, and some of the highest detected concentrations of metals and SVOCs in the test pit soil samples. These waste materials included a five-gallon bucket with possible waste paint contents and around 6 to 8 feet below grade in test pit A73, and plastic and metal debris, possible waste paint, and a weathered 55-gallon drum at six feet below grade in A74. The maximum detected concentrations of cadmium and Aroclor 1260 were detected in the soil sample A73-08. The soil sample from test pit A74, where drum remnants were encountered, exhibited the highest concentrations of TPH-DRO, PCBs, and chlorobenzene. TPH-GRO, toluene, and several metals (including arsenic and chromium) were also detected in sample A74-07 at concentrations exceeding the investigation screening criteria.

Along the eastern line of test pits (A67, A68, and A69) similar fill material was encountered. A strong petroleum odor was noted in the fill material within test pit TP-A68, particularly at depths between 14 and 16 feet below grade, corresponding to the groundwater interface, and depths where significant quantities of wood were present. A shallow pocket of waste liquid with a suspected turpentine-like odor was encountered at a depth of approximately two feet below grade immediately adjacent to test pit A68. A corresponding sample (A68-AN2) was collected for analysis from the soil immediately underlying the liquid anomaly. Concentrations of detected chemical constituents in A68-AN2 were less than the MDE screening criteria except for three metals, arsenic, chromium, and vanadium, of which only chromium exceeded its MDE anticipated typical concentration (ATC).

2.31 2012 TAXIWAY TANGO INVESTIGATION

In August of 2012, an investigation was conducted at in the vicinity of Taxiway Tango to refine the lateral and vertical extent of landfill material and soil impacts along Taxiway Tango. A total of 18 test pits were excavated, with nine on the runway side of the taxiway (e.g., west side; DR-TP-A49 to DR-TP-A57) and nine on the DRA side of the taxiway (e.g., east side; DR-TP-A58 to DR-TP-A66), adjacent to the DRA. Results of the investigation are summarized in the *Taxiway Tango Soil Characterization Report* (Tetra Tech, 2013b). Test pit locations and results of the chemical analyses of soil samples from the test pits are shown in Figure 2-36.

Thirty-seven discrete subsurface soil samples were collected (two from each test pit, plus a third sample collected from test pit A66) and submitted to a laboratory for analysis of VOCs, SVOCs, PCBs, total metals, TPH-DRO and TPH-GRO. Four samples (A51-07, A52-06, A61-03, and A63-09) were submitted for TCLP analyses.

None of the test pits were located less than ten feet from Taxiway Tango. Materials uncovered during the 2012 test pit excavations included brick, metal wire, sheet metal, glass, burnt wood, porcelain and ceramics, plywood or particle board, concrete and rebar, and a yellow material (potentially zinc chromate paint). Petroleum odors and elevated field VOC readings (e.g., above background levels) were also observed in several of the test pits. Groundwater was encountered in only seven of the 18 test pits. The estimated depth to groundwater ranged between 3 and 6.5 feet below grade on the east side of taxiway (test pits DR-TP-A49 to DR-TP-A57), and between 4 and 11.5 feet below grade on the west side (test pits DR-TP-A58 to DR-TP-A66).

TCE concentrations in two soil samples and VC concentrations in three test pit soil samples exceeded the residential land use screening criteria. No VOCs were detected at levels exceeding industrial land use screening criteria. Concentrations of TPH-DRO (19 samples) and TPH-GRO (three samples) exceeded the residential screening criteria, with one TPH-GRO and 14 TPH-DRO detections also exceeding their respective industrial screening criteria. Calculated

BaPEq[1] concentrations for PAHs exceeded the industrial screening criterion in seven samples. PCB concentrations in two test pit samples (samples DR-TP-A62-05 and DR-TP-A64-08) exceeded both the residential and industrial screening levels. Calculated total PCB concentrations exceeded the residential screening criterion in six samples, with two samples (DR-TP-A62-05 and DR-TP-A64-08) also exceeding the industrial screening levels.

2.32 2012 REVIEW AND ANALYSIS OF HISTORICAL AERIAL PHOTOGRAPHS

In 2012, historical aerial photographs, maps, and drawings were obtained from various commercial and governmental sources and evaluated to identify and document land changes or site features that may have influenced environmental investigations at six MSA study areas. The six study areas include the Main Terminal Area, Greater Strawberry Point (GSP), SP, the Compass Road Area (CRA), the DRA, and MDANG. Aerial photographs from 1938 to 1998 were evaluated and interpreted for the study. Relevant photographs were converted to digital format and added to the MSA environmental geographic system (EGIS) database, which will allow future use of the photographic information in projects at MSA. The results of the study are presented in *Review and Analysis of Historical Aerial Photographs of Martin State Airport* (Tetra Tech, 2013d).

Based on an early topographic map, the condition of the current MSA property before its initial purchase by the Glenn L. Martin Company in 1929 shows the airport area as undeveloped and rural, with a woodland area in the center of the peninsula, and consisting of mostly open, unforested land along the shorelines of Stansbury Creek and Frog Mortar Creek. By 1945, most of the airport had been constructed, including the airport administration and terminal building, airplane hangars, taxiways, and runway.

Numerous environmental investigations have been conducted at MSA at the MDANG property and at the five Lockheed Martin study areas within the airport property. The most extensively

[1]Per current United States Environmental Protection Agency (USEPA) guidance (USEPA, 1993), the concentrations benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)-fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene can be combined in an adjusted risk-weighted concentration, that is expressed in terms of benzo(a)pyrene toxicity. This calculated value, called the benzo(a)pyrene equivalent concentration (BaPEq), uses the USEPA-recommended toxicity equivalency factors (TEFs) to estimate the potency of each of these PAH compounds relative to that of benzo(a)pyrene. The TEFs are then used to convert each individual PAH concentration into an equivalent concentration of benzo(a)pyrene; these values are summed to arrive at the calculated BaPEq concentration.

studied Lockheed Martin site is the DRA, which is on the eastern side of MSA between the airport runway and Frog Mortar Creek.

Overall, the review of aerial photographs and drawings show that the DRA was used as a dump when it was filled in during the 1950s. The review indicated the presence of several pits. Photographs from the mid-1950s show black staining on the sidewalls and black material on the surface of two constructed pits, indicating dumping had occurred. Engineering drawings also identified the locations of acid and oil disposal pits, one of which currently exists as Pond 1 at the DRA. The aerial photographs also identified two smaller possible pits that may have been used to dump material in what is now referred to as the Petroleum Hydrocarbon Area. Another former ground scar or possible pit area was also identified near the CRA east of the airport runway.

The following summarizes the findings of the historical photograph study at the DRA, the CRA, and the munitions area of MDANG located north of and adjacent to the DRA. Significant features in these areas were assigned an identification number, dated, and were geo-referenced (i.e., assigned geographic coordinates). Features discussed below are referenced by their identification number in parentheses [e.g., (#53) refers to feature #53], and are shown in Figure 2-37. Because the current source characterization study focuses on the DRA and immediate areas, the results of the Main Terminal, SP, and GSP study areas are not included in this document.

Dump Road Area

1924: A USGS topographic map from 1924 documents site conditions approximately five years before the first purchase of the current MSA property by the Glenn L. Martin Company. The 1924 topographic map shows the MSA area as undeveloped and rural, with woods in the center of the peninsula, and mostly open, unforested land along the Frog Mortar Creek shoreline.

1938: The site was generally undeveloped at this time except for agricultural activity and a small area with structures in the southern portion of the site. The southern portion of the site is an open, unforested area. Wooded areas are apparent in the western and southwestern portions of the site, in the area of the current Taxiway Tango and airport runway. In the northern portion of the site,

the small cove shown in the 1924 topographic map remains. The cove extends from Frog Mortar Creek westward to what is today the edge of Taxiway Tango (blue dashed lines in Figure 2-37). The cove is immediately south of the current MDANG munitions area.

1945: By 1945, runways 1–3 and the airport main terminal buildings have been built. The areas of the DRA and CRA to the south have been completely cleared and terraced (#32), from the northern shoreline of the small cove in the CRA (currently a wetland) to the southern shoreline of the larger cove in the DRA. The western portion of the DRA cove has been backfilled (light blue dashed line on Figure 2-37). Small unpaved roads run parallel to the main runway near the current Taxiway Tango area and terminate at a large ground scar, sand pit, or shallow soil depression (#53) just north of the "L"-shaped end of the runway present at this time. The ground scar, sand pit, or shallow soil depression (#53) is directly west of the small CRA cove in what is now the northwestern edge of the CRA.

1947: No significant features or changes in the DRA were noted in the 1947 photograph.

1949/1951: USGS topographic maps show the DRA as an unforested area with no mapped features. The DRA cove is named Limehouse Cove in the 1951 topographic map.

Undated design drawing: This drawing shows the proposed KP and KV buildings for the National Guard armory area, a proposed new dump road, and a proposed 200,000-square-foot oil and acid pit (#1), which was the southern shoreline of the DRA cove. Sketches and annotations on the drawing show the proposed pit to have sloping sides and a diameter of 130 feet, with a depth of 12 feet. Excavated earth was to have been placed around the perimeter of the pit. The drawing also shows the locations of the "existing" dump road, existing acid pit (#43), and proposed alignment for the proposed Taxiway Tango. Approximately half of the "existing" acid pit (#43) is shown as being underneath the planned location of Taxiway Tango; the other half is on the western side of the taxiway. The proposed oil and acid pit (#1) is at the current Pond 1 location. The "existing" acid pit (#43) is shown to be approximately 680 feet north of Taxiway D. Two bunkers are shown in the northern area of planned Taxiway Tango. These are shown as features #20 and #26.

1952: Earthen berms still enclose the area of the DRA south of the Limehouse Cove shoreline and the CRA. A large pit is visible south of the southern shoreline of the DRA cove, at the location of the proposed oil and acid pit shown in the undated design drawing above. The pit appears to be mostly empty, with some possible liquids at the bottom (indicated by a dark area in the center of the pit). Burning (#15) is visible west of this pit.

1955: An oval pit (#44) and possibly an elongated sediment pond (#24) can be seen in these oblique aerial photographs of the DRA. Vegetation has grown in the bermed area, which was being filled in at this time. Earth-moving equipment and splays of fill are also visible.

1956: The February 1956 photograph shows an area of burning (#45) and a bermed pit (#43). This pit location coincides with the location of the "existing" pit in the undated design drawing described above. The ground scar or soil depression (#53) near the "L"-shaped runway terminus is visible in this photograph.

1956: The September 1956 photograph shows a large amount of activity along what is now Taxiway Tango, the DRA, and the munitions area within the MDANG property. Multiple areas of fill or debris piles (#48–#51) are visible as dump-truck-sized mounds adjacent to one another. These piles cover large areas and were possibly used later during the grading and construction of Taxiway Tango. Three pits are visible (#1, #46, #47). Whereas feature #1 was an engineered pit first appearing in 1956, features #46 and #47 are small shallow pits only visible in the 1956 aerial. Pits #46 and #47 are in the area currently designated as the PHA named as part of the DRA environmental investigations. A large portion of Limehouse Cove was being filled when this photograph was taken in 1956. Fill and debris can be seen in the area of feature #17 on Figure 2-37.

1957: By 1957, the terraced area of the DRA and CRA had been filled and construction of Taxiway Tango had started. The terraced area extends farther south than the area's current environmental investigations have covered. Limehouse Cove (#17), within the MDANG portion of DRA, was diked and gradually filled.

By 1957, a new and permanent oil and acid disposal pit (#1) (as titled in the 1958 as-built drawing) was constructed. Pond 1 is currently at that location. To the north and east, two other

features that appear to be small ponds or pits are at the present day Pond 2 (#19) and closer to the shoreline of Frog Mortar Creek (#42). Feature #42 coincides with the location of a current wetland area in the eastern part of the DRA.

1958 Drawing: The September 1958 as-built drawing shows the new oil and acid disposal pit (i.e., currently Pond 1) and a new access road constructed in the DRA. A note on the drawing states that it was added to the contract on September 25, 1956. The pit is semicircular, with a radius of 120 feet and a depth of eight feet. The sides are sloped 2:1 and a three-foot berm was constructed around the perimeter of the pit. The western edge of the pit is 313 feet from the center of Taxiway Tango.

1959/1960: Several photographs from 1959 and the 1960s show another pit (#2) adjacent to the first. This pit (#2) was similar in shape to feature #1, though slightly smaller. A 1960 oblique photograph of the second pit (#2) clearly shows dark, oil-like material dumped from one side of the pit floating on top of the water within the pit; berms around the pits are clearly visible. A large amount of spilled oily material is also apparent on the ground along portions of the berm and pit edge. South and southeast of the pits, the edge of the backfill being spread to the shoreline is visible. Dark features along the shoreline appear to be rubble and debris.

1966: The oil and acid pit (i.e., feature #1 and present day Pond 1) and the third pit, southeast and adjacent to Pond 1 (#2), are clearly visible in the 1966 aerial photograph. Present day Pond 2 (#19) appears as a dark feature; this may indicate vegetation or low water. Some ground disturbance appears southeast of the third pit (#2). The bermed area southeast of the DRA (i.e., the northeastern portion of the CRA) appears smooth and covered with vegetation.

1970: By 1970, the third pit southeast of Pond 1 (#2) has been filled in. Extensive earth moving and grading are evident southeast of the former third pit (#2). What is now Pond 2 is more visible in this rather than prior photos. Directly west of Pond 2, and southwest of the armory, is a small oval area that appears to be a pit. This dark feature is about the same distance off the current dump road as Pond 1.

1975: Vegetation now covers the area of the third pit southeast of Pond 1. Pond 1 and Pond 2 are clearly visible. Most of the DRA is vegetated. An area of ground disturbance exists at the

boundary of the DRA and CRA. The small oval area west of the armory that appeared to be a pit in the 1970 aerial photograph is not in the 1975 photograph.

1979: The area of ground disturbance at the boundary of the DRA and CRA is larger than in 1975.

1986: The area of ground disturbance at the boundary of the DRA and CRA covers the area of the loop road at the end of dump road (the area encompassed by current monitoring wells DMW-7S/I/D, MW-6, and DMW-6S/I/D). No other changes to the DRA are evident.

1989: The area of ground disturbance at the boundary of the DRA and CRA is smaller than in 1986, and with distinct boundaries.

1995: By 1995, the DRA is completely covered with vegetation, except for the roadways. Vegetation has now grown over the area of ground disturbance at the end of the dump road in the 1975–1989 photographs (#38).

1998: No significant features or changes in the DRA are noted in this aerial photograph.

Compass Rose Area

The 38-acre CRA lies south of the DRA, between Taxiway Tango and Frog Mortar Creek and is shown in Figure 2-37. Today, the site consists mostly of heavily wooded areas, mowed grass, and wetlands.

1938: A small cove (#16) is in the center of the CRA. Open fields likely used for agriculture are visible north of the cove, and forested land is south of the cove.

1945: The airport runway has been completed at this time. The runway terminates at an "L"-shaped pad extending northeast from the runway toward the cove. The runway terminates directly southwest of the northern end of the cove. The area immediately west of the cove had been cleared of vegetation. The lobate land area north of the cove and the area west and southwest of the cove are diked along the shoreline. A large circular ground scar, sand pit, or slight ground depression (#53) is west of the cove and directly north of the "L"-shaped runway terminus.

1947: The lobate land area north of the cove appears mostly vegetated. The ground scar area west of the cove (#45) (visible in the 1945 photograph) and the diked area southwest of the cove continue to be open areas with little or no vegetation.

1952–1957: The cove (#16), connected with Frog Mortar Creek, was diked and filled between 1952 and 1957. Taxiway Tango is under construction in the September 1956 photograph and the lobate land area north of the cove is mostly vegetated. Filling activities in the lobate land area north of the cove and in the cove can be seen in the 1957 photograph. In 1957, Taxiway Tango has been completed and the runway and Taxiway Tango have been extended to their current configuration. This is the same period when extensive dumping of material and open burning occurred in and around the nearby DRA. The inferred DRA landfill area encroaches on the north side of the CRA (#38).

1956: The large ground scar or depressed land within the bermed area north of the runway terminus is visible in the right side of this photograph. This area appears to be a large depressed area of the CRA.

1959: The cove appears to be filled in and the construction of the concrete pathway and pad of the compass rose is complete. Most of the unpaved areas of the CRA are vegetated.

1966—1979: No significant features or changes are noted in the CRA in these aerial photographs.

1986: The lobate land area north of the former cove appears to be heavily vegetated.

1989–1998: No significant features or changes are noted in the CRA in these aerial photographs.

Maryland Air National Guard Munitions Area

1938: The site is generally undeveloped at this time except for agricultural activity and small areas with structures in the northern portion of the site. A secondary road passes through the northwest portion of the site, parallel to Eastern Avenue to the north and other small secondary roads at the southern portion of the site, all leading to Frog Mortar Creek.

1945: The 1945 photograph shows three areas of ground disturbance in the eastern portion of MDANG, near the creek shoreline and north of the Munitions Area.

1947: The agricultural fields are no longer visible as compared to the previous aerial photograph, and the MDANG property displays evidence of ground surface disturbance. Portions of Taxiways 22, 28, Tango, and the taxiway connecting MSA to the Glenn L. Martin Plant 2 are visible at the eastern boundary of where the original MDANG lease area was later developed. Land has been cleared east of Taxiway 22 and north of Taxiway 28. No structures are visible on the MDANG property. A building north of Taxiway 28 appears to be consistent with the location of an electronics testing building that was present on the Glenn L. Martin property at that time. The Glenn L. Martin Airport runways, taxiways, and main terminal had been constructed southwest of the site.

1952: Identifiable features appear as in the previous aerial photograph. Land has been cleared east of the Taxiway 22 and 28 intersection next to Frog Mortar Creek (#3–#5). Land has also been cleared where the current northwestern MDANG facilities are located.

1956: The 1956 photograph shows fill or debris piles (#48/#49) visible as adjacent dump-truck-sized mounds. These piles cover large areas and were possibly used later during the grading and construction of Taxiway Tango.

1957**:** The southeastern portion of the present-day MDANG site near Frog Mortar Creek appears to be filled with imported material. Taxiway Tango has been constructed.

1959–1998: No changes to identifiable features are noted as compared to the 1957 aerial photograph.

TABLE 2-1

SUMMARY OF DUMP ROAD AREA INVESTIGATIONS [1]
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Report	Report Date	Fieldwork Date	Geophysical Survey/Utility Survey	Soil Gas	Soil Borings	Test Pits	Well Installation	Groundwater	Surface Water	Sediment	Comments
Preliminary Assessment, (Maryland Department of the Environment, 1989)	March 1989	1988-1989	None	None	None	None	None	None	None	None	The MDE, under contract to the USEPA, conducted a PA inspection of the MSA and Strawberry Point areas in 1989 to evaluate the site for inclusion in the CERCLA/Superfund NPL. The PA identified three former acid disposal pits (includes current Ponds 1 and 2), an MAA maintenance yard drum storage area, the reported historic dump site, and three buildings at MSA/Strawberry Point that housed nuclear materials research laboratories, as areas of concern. The MSA was regulated under RCRA at the time of the PA. The MDE referred the closure of the nuclear laboratories for follow-up action by MDE Center for Radiological Health, and stated that no further action was warranted under CERCLA for any of theses areas.
Geophysical Survey Report, (Handex, 1992)	February 1992	October 1991	A geophysical survey consisted of the EM-31, ground penetrating radar (GPR), and limited magnetometry (LM) surveys of a 1600-foot by 200-foot area along Taxiway Tango and north of Taxiway D	None	None	None	None	None	None	None	The geophysical investigation, spurred by the encounter of four drums in July 1991, discovered large geophysical anomalies indicating the presence of metal northeast of the July 1991 drum removal area.
Preliminary Site Investigation, (MES, 1994)	May 1994	January 1994	None	15 samples SG-1 through SG-15 (thirteen collected 4 ft. bgs and two collected 3.5 ft. bgs) Analyzed for TPH, GRO, VOCs, and BTEX	16 soil samples collected (SB-1, SB-2, SB-4,SB-6 through SB-15, and PZ-1 through PZ-3). 13 SB soil samples were collected between 2 and 6 ft., and 3 PZ samples between 9 and 11 ft. Analyzed for TCLP metals, TCLP VOCs, pH, ignitability and sulfide.	None	Three wells-PZ-1, PZ-2 and PZ-3; slug tests	11 groundwater samples taken from 3 piezometers (PZ-1 through PZ-3), and 8 DPT locations (SB/GW-3, SB/GW-4, SB/GW-6, SB/GW-9, SB/GW-12, SB/GW-13, SB/GW-14, and SB/GW-15). Analyzed for VOCs, metals, and water quality parameters.	None	None	Petroleum saturated /contaminated soils were present in select samples. Soils and goundwater in the vicinity of some of these sample locations were heavily contaminated at the levels which would classify it as hazardous waste. TCE was detected in groundwater at a concentration of 92,000 ug/L and toluene at 42,000 ug/L at probe SB/GW-9 at depth of 5 to 6 feet. The extent of contamination of soils and ground water was not defined in this investigation.
Confirmation Investigation, (MES, 1995)	January 1995	July-August 1994	None	None	78 soil samples: 75 samples (2 to 12 ft. depths) from DPT borings advanced over a grid pattern; 3 samples (2 to 47 ft. depths) during installation of wells MW-1 through MW-3. Analyzed for TPH, VOCs, SVOCs, and total metals. Select samples were analyzed for full TCLP parameters.	None	Three wells MW-1, MW-2 and MW-3; slug tests	33 groundwater samples were analyzed; consisting of 23 probe samples and 3 well samples, plus 6 duplicates and a blank. Analyzed for VOC, SVOCs, TPH, metals, sodium, and chloride.	One acid pit / pond sample; analyzed for TCLP organics and inorganics.	None	Maximum concentrations of TCE, cis-1,2-DCE, and VC detected in one probe groundwater sample located approximately 200 feet east of Taxiway Tango (in an area that appears to be between wells MW-26S/I and MW-4) exceeded the MCLs by factors ranging from more than 400 times for cis-1,2-DCE to over 1,000 times for VC. BTEX was also detected in groundwater samples, with concentrations of benzene exceeding its MCL in five probe groundwater samples. Chromium levels exceeded the MCL at four groundwater sampling locations. MES concluded that disposal of petroleum products and chlorinated solvents had an adverse impact on soils and ground water at the site. Generally the locations of higher concentrations of contaminants correlate with the anomalies found in the geophysical survey and initial field investigation conducted in January of 1994. Samples collected in the shallow water table with elevated concentrations of TPH, VOCs, and SVOCs show that the impacted soils are leaching into the ground water.

TABLE 2-1

SUMMARY OF DUMP ROAD AREA INVESTIGATIONS [1]
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Report	Report Date	Fieldwork Date	Geophysical Survey/Utility Survey	Soil Gas	Soil Borings	Test Pits	Well Installation	Groundwater	Surface Water	Sediment	Comments
Expanded Investigation, (MES, 1996)	July 1996	January - February 1996	None	None	15 samples from 25 DPT bore holes (B-1 through B-25) and during installation of 3 monitoring wells (MW-4 through MW-6). Analyzed for VOCs, SVOCs and heavy metals.	None	3 wells MW-4, MW-5 and MW-6 slug tests	10 samples were collected in various DPT borings using temporary well screens. 6 wells (MW-1 through MW-6) and 3 piezometers (PZ-1 through PZ-3) were also sampled. Analyzed for VOCs, SVOCs, and heavy metals.	None	Sediment sampling of two acid pits or ponds; analyzed for TCLP organics and inorganics.	Deteriorated drums were discovered northeast of Dump Road Area; contents tested TCLP hazardous for chromium; drum contents were containerized; Air photos from 1952 and 1957 show an open dump area adjacent to what is now Taxiway Tango and Acid Pit #1 (i.e., Pond No. 1). A void was found at boring B-8 and product was found at boring B-15 near the Petroleum Hydrocarbon Area. Thick smoke emissions appeared to be emanating from the vicinity of the Acid Pit area. Average hydraulic conductivity of 2.5 feet per day estimated from the wells. Performed Human Health Risk Assessment as part of the study. Select soil and groundwater samples were analyzed for full TCLP parameters.
Groundwater Monitoring Well Surveying and Sampling Report, (Tetra Tech, 1999)	May 1999	March 1999	None	None	None	None	None	6 existing wells (MW-1 to MW-6) and 1 piezometer (PZ-2) were sampled. Analyzed for TPH-DRO/TPH-GRO, VOCs, SVOCs, and metals.	None	None	Eight samples including two duplicates were collected from the six monitoring wells and one piezometer. TPH-DRO and TPH-GRO were detected at elevated concentrations in two wells. TPH-DRO only was detected at elevated concentrations in two additional wells and the piezometer. TCE was detected at elevated concentrations (exceeding its MCL) in six of the seven wells sampled. Concentrations of three other VOCs, including 1,2-DCE, tolune, and 1,1,1-TCA, also exceeded MCLs in one well (MW-5).
Source Identification and Assessment Report, (Tetra Tech, 2000)	September 2000	March-May 2000	A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to clear the excavation areas.	None	83 soil samples; collected from among 11 test pit excavations, 12 soil borings, and beneath encountered drums. Analyzed for VOCs, SVOCs, heavy metals, and PCBs/pesticides.	6 Test Pit Excavations at Taxiway Tango; 4 Trenches and one Test Pit excavation at the drum-area	12 temporary wells: Pond #1 (EP1-SB1 through EP1-SB3), and Pond #2 (EP2-SB1 through EP2-SB4); and Petroleum Hydrocarbon Area (PHA-1 through PHA-5).	12 groundwater samples; one from each temporary well. Analyzed for VOCs, SVOCs, pH, heavy metals and PCBs/pesticides.	A tidal study was conducted	4 Samples collected; Pond #1 (EP1-SD1 and EP1-SD2) and Pond #2 (EP2-SD1 and EP2-SD2) .	Fifteen 55-gallon and one 30-gallon drum, readings above 2000 ppmv, and inactive ordnance (consisting of a 100 pound bomb, two 1,000 pound bombs, and a 2,000 pound bomb) were discovered. Various SVOCs, metals, and PCBs were detected in soils at concentrations exeeding Maryland risk-based concentrations. Several VOCs were detected in groundwater at concentrations exceeding drinking water MCLs. Sediment samples from Pond 1 contained high concentrations of both cVOCs and pVOCs.
Chemical Delineation and Groundwater Monitoring Report, (Tetra Tech, 2002)	December 2002	March-October 2002	A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to assure that all proposed sampling locations were clear.	None	20 Samples (7 samples from various depths in DMW-1 and DMW-2, plus duplicates) Analyzed for VOCs, SVOCs, hexavalent chromium, heavy metals, and PCBs/pesticides.	None	4 wells DMW-1A DMW-1B DMW-2A DMW-2B	6 previous wells (MW-1 to MW-6), 4 new wells, and 46 temporary wells (PA-1 to PA-16; TT-1 to TT-10; and DA-1 to DA-14, plus duplicates). Analyzed for VOCs, SVOCs, hexavalent chromium, heavy metals, and PCBs/pesticids.	None	None	All groundwater samples were analyzed for VOCs, SVOCs, Priority Pollutant Metals, TPH, hexavalent chromium, PCBs, and pesticides. All twenty soil samples were analyzed for VOCs; nineteen samples were analyzed for total priority pollutant metals, and hexavalent chromium; seven samples were analyzed for gasoline, diesel, and residual range organics; and six samples were analyzed for SVOCs.

TABLE 2-1

SUMMARY OF DUMP ROAD AREA INVESTIGATIONS [1]
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Report	Report Date	Fieldwork Date	Geophysical Survey/Utility Survey	Soil Gas	Soil Borings	Test Pits	Well Installation	Groundwater	Surface Water	Sediment	Comments
Data Gap Investigation and Modeling Report, (Tetra Tech, 2004a)	May 2004	September - December 2003	A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to assure that all proposed well locations were clear.	None	11 Soil samples; collected in DMW-4, DMW-5, and DMW-6 at depths of major lithologic changes. Analyzed for geotechnical parameters only (porosity, bulk density, moisture content and total organic carbon).	None	28 permanent wells (DMW-1S through DMW-10S; DMW-3I through DMW-11I; DMW-3D through DMW-9D; MW-7) and 4 temporary wells (TT-11 to TT-14) Slug Tests	Quarterly GW sampling event of the 10 existing wells, the 28 new wells, and the 4 temporary wells. Analyzed for VOCs, SVOCs, metals, and pesticides. Select wells also analyzed for nitrate, sulfate, and iron.	None	None	The intent of the data gap investigation was to determine the extent of chemicals in groundwater plumes at the southeast portion of MSA. The specific objectives completed during the investigation were to deliniate the eastern and western extent of chemicals in groundwater, characterize VOC plumes, characterize site geology, and conduct quarterly groundwater monitoring. This groundwater sampling event was the baseline event for the upcoming quarterly sampling events.
December 2003 Quarterly Groundwater Monitoring Report, (Tetra Tech, 2004b)	May 2004	December 2003	None	None	None	None	None	Quarterly GW sampling event of the 38 permanent and the 4 temporary wells. See comments for analysis.	None	None	All Samples were analyzed for VOCs, and total and dissolved metals. Select samples were also analyzed for SVOCs. Bio-parameters consisting of nitrate, sulfate, and iron (III) were also analyzed at selected deep well locations
March 2004 Quarterly Groundwater Monitoring Report, (Tetra Tech, 2004c)	June 2004	March 2004	None	None	None	None	None	Quarterly GW sampling event of the 38 permantent wells. See comments for analysis.	None	None	The four temporary wells were not sampled and scheduled for abandonment. All samples were analyzed for VOCs, and total and dissolved metals. Select samples were also analyzed for SVOCs. Bio-parameters consisting of nitrate, sulfate, and iron (III) were also analyzed at selected deep well locations
June 2004 Quarterly Groundwater Monitoring Report, (Tetra Tech, 2004d)	September 2004	June 2004	None	None	None	None	None	Quarterly GW sampling event of 24 permantent wells. See comments for analysis.	None	None	Based on Tetra Tech's letter dated May 28,2004, MDE approved a reduction in wells sampled in the June 2004 monitoring event. All samples were analyzed for VOCs, and total and dissolved metals. Select samples were also analyzed for SVOCs. Bio-parameters consisting of nitrate, sulfate, and iron (III) were also analyzed at selected deep well locations

TABLE 2-1

SUMMARY OF DUMP ROAD AREA INVESTIGATIONS [(1)]
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Report	Report Date	Fieldwork Date	Geophysical Survey/Utility Survey	Soil Gas	Soil Borings	Test Pits	Well Installation	Groundwater	Surface Water	Sediment	Comments
September 2004 Quarterly Groundwater Monitoring Report, (Tetra Tech, 2004e)	November 2004	September 2004	None	None	None	None	None	Quarterly GW sampling event of 13 permanent wells. See comments for analysis.	None	None	MDE approved a reduction in wells sampled in the September and December 2004 monitoring events. All samples were analyzed for VOCs, and total and dissolved metals. Select samples were also analyzed for SVOCs. In addition, perchlorate was added to this sampling event.
December 2004 Quarterly Groundwater Sampling Report, (Tetra Tech, 2005a)	March 2005	December 2004	None	None	None	None	None	Quarterly GW sampling event of 13 permanent wells. See comments for analysis.	None	None	MDE approved a reduction in wells sampled in the September and December 2004 monitoring events. All samples were analyzed for VOCs, and total and dissolved metals. Select samples were also analyzed for SVOCs. In addition, perchlorate was added to this sampling event.
Groundwater User Survey Technical Memorandum, (Tetra Tech, 2005b and 2012d)	April 2005; Updated March 2012	November 2004; 2010	None	None	None	None	None	None	None	None	A private potable well survey for the area around MSA was conducted. The survey was repeated in 2010. The survey reviewed relevant records regarding public and private groundwater users in the area, obtained current aerial photographs of MSA and environs, evaluated plume migration from the site to the closest potable well, and completed a field verification study of wells identified in the records review. Eighty-four wells in the survey area were documented as potentially being in use. A former well at 3301 Edwards Lane (i.e., the closest well to the site) was no longer used for drinking water since the property was supplied by public water. Most other residences with well records on file, lying east of Frog Mortar Creek and west of Middle River, are likely connected to public water. The survey findings suggested that no potable wells are now in use in the immediate vicinity of the site.
Additional Soil and Sediment Sampling Letter Report, (Tetra Tech, 2005c)	July 2005	May 2005	A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to assure that all proposed sampling locations were clear.	None	12 soil samples collected. A sample was collected at 1 and 4 ft. bgs from 6 soil borings. Analyzed for total chromium and hexavalent chromium.	None	None	None	None	Four sediment samples were taken from Pond 1. VOCs, SVOCs, PCBs, total metals, hexavalent chromium, and SEM/AVS	This additional sampling was conducted to investigate hexavalent chromium concentrations in soils where elevated total chromium were detected, and also to further evaluate potential environmental risks associated with sediment chemical concentrations. Hexavalent chromium was detected at low concentrations in six soil samples with concentrations ranging from 0.36-1.4 mg/kg. Five of the six detections were in the one-foot depth samples. Three of the sediment samples had low to moderate concentrations of VOCs (including TCE and BTEX), SVOCs, metals and PCBs. Hexavalent chromium was not detected in any of the pond sediment samples.
2006 Groundwater Monitoring Event, (data collection only)	None	August 2006	None	None	None	None	None	36 wells sampled including MW-2 through MW-6, DMW-1A/B through DMW-11S/I. Analyzed for VOCs, 1,4-dioxane, perchlorate, total and dissolved metals, and hexavalent chromium. Two shallow wells (DMW-3S and DMW-9S) also analyzed for SVOCs.	None	None	Sampling results indicated that concentrations of cVOCs exceeded Maryland groundwater standards throughout a large portion of the investigation area, and at multiple depths. The maximum TCE concentration observed in a 2006 monitoring-well sample was 41,000 µg/L reported for upper surficial-aquifer well DMW-11S. 1,4-Dioxane and perchlorate were detected in 34 and 17 groundwater samples, respectively. Hexavalent chromium was not detected in the samples. Low concentrations of several SVOCs were detected at DMW-3S and DMW-9S.

TABLE 2-1

SUMMARY OF DUMP ROAD AREA INVESTIGATIONS [(1)]
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Report	Report Date	Fieldwork Date	Geophysical Survey/Utility Survey	Soil Gas	Soil Borings	Test Pits	Well Installation	Groundwater	Surface Water	Sediment	Comments
Soil and Groundwater Investigation Data Report, (Tetra Tech, 2008)	June 2008	September 2007 - February 2008	A geophysical survey delineated the areal and vertical extent of possible landfill areas. The survey consisted of a reconnaissance- level EM survey and follow-up surficial gamma mapping survey to detect high-energy gamma radiation.	None	27 Soil samples collected from among 14 soil borings and 52 MIP borings (MIP-23 through MIP-75) advanced by DPT methods. Analyzed for VOCs.	50 soil samples taken from 25 test pits (A1 through A17 and N1 through N8). Analyzed for VOCs, SVOCs, metals, 1,4-dioxane, and PCBs.	35 permanent wells including MW-15 (S/I/D) through MW-26 (S/I/D), and two OW wells (OW-1-S/I) and Two RW wells (RW-1-S/I).	23 gw samples collected using MIP/DPT sampling, and 33 samples from new and 37 samples from existing permanent wells. Analyzed for VOCs, metals, and 1,4-dioxane.	None	None	Five 55-gallon drums and two 30 gallon containers, and PID readings up to 700 ppmv were discovered.
Groundwater Monitoring Report, August - September 2008, (Tetra Tech, 2009b)	May 2009	August - September 2008	None	None	None	None	None	Sampled 35 wells installed before 2007 and 34 wells installed in 2007. See comments for analysis.	None	None	Samples were analyzed for VOCs, 1,4-dioxane, hexavalent chromium, and total and dissolved metals. Select samples were also analyzed for Alkalinity, chemical oxygen demand, total organic carbon, and pH.
Deep Groundwater Investigation Report, (Tetra Tech, 2009a)	April 2009	June 2008 - January 2009	A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to assure that all proposed well locations were clear.	None	8 Soil samples collected. 2 Geotechnical Samples collected from each deep well boring. Evaluated for soil porosity, bulk density, moisture content and total organic carbon.	None	4 Deep Wells 1 Intermediate well MW-27D MW-28I MW-29D MW-30D MW-31D	Groundwater samples were collected from each of the new monitoring wells. Analyzed for VOCs, SVOCs, 1,4-dioxane, and metals.	None	None	The purpose of the investigation was to determine whether VOCs detected in the surficial aquifer groundwater at the MSA have migrated vertically through clay-rich sediments to the next underlying aquifer. Chlorinated VOCs such as TCE, cis-1,2-DCE, and VC were not detected in the deep confined wells. Trace to low concentrations of BTEX constituents were detected in several samples.
Groundwater Monitoring Report 2009, (Tetra Tech, 2010a)	January 2010	August - September 2009	None	None	None	None	6 Permanent Wells MW-32 through MW-34 (SI)	65 new and existing wells were sampled See comments for analysis.	None	None	Samples were analyzed for VOCs, 1,4-dioxane, hexavalent chromium, and total and dissolved metals. Select samples were also analyzed for TPH-DRO, TPH-GRO.
Remedial Investigation Report, (Tetra Tech, 2012b)	November 2010 (initial); revised April 2012	August - September 2009; Also included data from prior investigations.	A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to clear the excavation areas.	None	72 soil samples taken from 25 soil boring locations (SB-01 through SB-25). Analyzed for VOCs, SVOCs, and total metals.	28 samples taken from 27 test pits (A18 through A44). Analyzed for VOCs, and total metals.	None	None	None	None	Three orphan drums and one apparent 55-gallon drum were discovered during excavation. Human health and ecological risk assessments were conducted using data from the early 2000s through 2009. Contaminants of concern included VOCs, SVOCs, PCBs, and metals.

TABLE 2-1

SUMMARY OF DUMP ROAD AREA INVESTIGATIONS [1]
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Report	Report Date	Fieldwork Date	Geophysical Survey/Utility Survey	Soil Gas	Soil Borings	Test Pits	Well Installation	Groundwater	Surface Water	Sediment	Comments
Off-site Piezometer Installation and Water Level Monitoring, (Tetra Tech, 2010b) and Continuous Water Level Report (Tetra Tech, 2011b)	November 2010; October 2011	May-July 2010; March-April, 2011	A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to clear the boring areas.	None	None	None	9 piezometers PZ-1S,I,D, PZ-2S,I,D	None	None	None	Two MIPs borings were advanced and six piezometers were installed via DPT on the 3300 and 3301 Edwards Lane properties. Groundwater levels at the six piezometers and three wells at MSA were recorded every 15 minutes for one month in June-July, 2010. Surface water levels were recorded at the same interval at a tidal gaging station installed on Frog Mortar Creek. Baromteric pressure was recorded every 15 minutes at MSA. Water levels and barometric pressures were also recorded on March-April, 2011 to provide an additional set of data. The studies demonstrated that groundwater levels at the wells and piezometers responded to tidal and barometric pressure fluctuations and the data were used for DRA groundwater modeling.
Groundwater Monitoring Report 2010, (Tetra Tech, 2010c)	December 2010	July 2010	None	None	None	None	None	65 wells were sampled See comments for analysis.	3 samples collected in Frog Mortar Creek	None	Groundwater and surface water samples were analyzed for VOCs, 1,4-dioxane, hexavalent chromium, perchlorate, and total and dissolved metals,a and perchlorate. Select groundwater samples were also analyzed for RDX (an explosive compound), TPH-DRO, TPH-GRO, radium-226, radium-228 and natural attenuation parameters..
Dump Road Supplemental Design Characterization Report, (Tetra Tech, 2011a)	April 2011	September 2010 - January 2011	Reconnaissance level EM survey was conducted for 21 acres from the southern boundary of the Dump Road Area to south of the Compass Rose area.	101 passive soil gas samples set at 4 ft. bgs. 99 samples analyzed for VOCs, TPH and diesel alkanes	None	None	None	None	None	None	Topographic surveying and a wetlands assessment of the complete Dump Road Area and Compass Rose area were conducted. Slug tests (single-well permeability tests) were conducted on 16 surficial aquifer wells.
2011 Groundwater Monitoring Report, (Tetra Tech, 2012e)	March 2012	May-June 2011	None	None	None	None	None	65 wells were sampled	None	None	Groundwater and surface water samples were analyzed for VOCs, 1,4-dioxane, hexavalent chromium, perchlorate, and total and dissolved metals,a and perchlorate. Select groundwater samples were also analyzed for RDX (an explosive compound), TPH-DRO, TPH-GRO, radium-226, radium-228 and natural attenuation parameters..
2011 Compass Rose Soil Investigation Report, (Tetra Tech, 2012f)	March 2012	June 2011	Assess subsurface conditions based on elevated geophysical survey EM readings of EM anomalies A, B, C and D identified during 2010 the geophysical survey.	None	None	4 Test Pits/4 soil samples analyzed for VOCs (8260B); SVOCs (8270D); PCBs (8082A); TPH GRO/DRO (8015B); Priority Pollutant metals (6010C, 7471A)	None	None	None	None	This investigation provided additional data, via surface and subsurface exploration and testing, to assess whether waste had been disposed of in the Compass Rose Area. This investigation also assessed the nature (e.g., mineral content) of soils in the area to discover whether these minerals may have contributed to geophysical survey anomalies found there. This study seeked to evaluate more definitively the geophysical survey findings of the 2010 DRA Supplemental Design Characterization study, which indicated that some areas near the Compass Rose Area exhibited anomalous EM responses.

TABLE 2-1

SUMMARY OF DUMP ROAD AREA INVESTIGATIONS [(1)]
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Report	Report Date	Fieldwork Date	Geophysical Survey/Utility Survey	Soil Gas	Soil Borings	Test Pits	Well Installation	Groundwater	Surface Water	Sediment	Comments
Dump Road and Runway Area Soil and Groundwater Investigation, (Tetra Tech, 2012g)	January 2012	June-July 2011	None	20 MIP borings (MIP-76 to MIP-95) to screen for cVOCs and petroleum VOCs near northwest DRA, Taxiway Tango, and runway.	10 soil borings (SB26 to SB35) in northwest and western portions of DRA Analyzed for VOCs, SVOCs, PCBs, metals, TPH-GRO/DRO.	None	Installed 6 wells: one intermediate (MW-30I), and five shallow wells (MW-35S through MW-39S)	Six groundwater samples (from 6 new wells) analyzed for VOCs, SVOCs, 1,4-dioxane, TPH-DRO/GRO, metals, perchlorate, and hexavalent chromium.	None	None	Highly elevated cVOC levels were identified at four MIP locations. VOCs in one soil sample (SB-27 at 10-foot depth), SVOCs in one sample (SB-32), and TPH-DRO in two samples (SB-27 and SB-32) exceeded MDE residential and non-residential soil standards. VOCs (TCE, VC, and naphthalene) were detected in groundwater samples (MW-30I and MW-39S) at concentrations exceeding the Maryland groundwater standards. TPH-DRO was detected at well MW-39S (east of Pond 1) at a concentration of 3,000 µg/L, which exceeded the MDE groundwater standard by more than a factor of 60. Detected TPH-DRO concentrations also exceeded the MDE standard in two groundwater samples (MW-35S and MW-37S). The GRO concentration in one well (MW-30I; located in southern portion of Taxiway Tango) exceeded its MDE groundwater standard.
Interim Remedial Action/Feasibility Study for Dump Road Area Groundwater (Tetra Tech, 2012h)	August 2012	NA	None	None	None	None	None	None	None	None	The IRA/FS for the groundwater operable unit at the DRA recommended implementation of a groundwater pump-and-treat system that included installing and operating 16 extraction wells along Frog Mortar Creek to prevent migration of contaminated groundwater to the creek, and installing and operating an *ex situ* groundwater treatment system to treat extracted groundwater before discharge with an option to treat high concentration areas via groundwater recirculation with amended groundwater to promote *in situ* bioremediation. The 30% design for implementation of the recommended alternative described above included the preliminary design of the pump-and-treat system.
Treatability Study Report: Groundwater Treatment Plant for Dump Road Area (Tetra Tech, 2012i)	September 2012	N/A	None	None	None	None	None	None	None	None	In late 2011 and early 2012, a bench–scale treatability study was conducted for the DRA to determine design operational parameters for metals removal and advanced oxidation processes using representative groundwater samples collected from the site. Five processes were selected for bench–scale testing including: 1) conventional pre-treatment; 2) advanced oxidation with ozone-hydrogen peroxide process; 3) advanced oxidation with ultraviolet light–titanium dioxide; 4) proprietary pre-treatment process; and 5) ion-exchange testing for metals removal polishing step. The study recommended using advanced oxidation process because the process has been successful at other Lockheed Martin sites and advanced oxidation will meet the DRA's National Pollutant Discharge Elimination System standards.
Maryland Air National Guard Munitions Area Soil Vapor and Indoor Air Investigation Report, (Tetra Tech, 2012j)	June 2012	January 2012	A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to clear the boring areas.	22	22	None	None	None	None	None	In January 2012, Tetra Tech sampled 22 temporary soil vapor probes aligned in north–south transects in key areas of the MDANG Munitions Area using direct push technology (Tetra Tech, 2012g). Additionally, three indoor air quality samples were collected inside two buildings, including an office, a conference room, and inside a maintenance building in the MDANG Munitions Area. The locations of the soil vapor and indoor air samples with results exceeding the screening criteria are shown in Figures 3-32 and 3-33. The soil vapor and air samples were analyzed for VOCs. The results of the soil vapor and indoor air quality investigation did not identify any regulatorily unacceptable human health risks posed to site workers by exposure to VOCs detected in soil vapor. Soil gas samples from the Munitions Area, directly downgradient of several DRA wells, show no TCE, cis-1,2-DCE, or VC concentrations above their respective screening criteria.

TABLE 2-1

SUMMARY OF DUMP ROAD AREA INVESTIGATIONS [1]
LOCKHEED MARTIN, MARTIN STATE AIRPORT, MIDDLE RIVER, MARYLAND

Report	Report Date	Fieldwork Date	Geophysical Survey/Utility Survey	Soil Gas	Soil Borings	Test Pits	Well Installation	Groundwater	Surface Water	Sediment	Comments
2012 Groundwater Monitoring Report, (Tetra Tech, 2013a)	January 2013	April-August 2012	None	None	None	None	None	72 Dump Road Area wells were sampled.	None	None	Consistent with the 2011 results, concentrations of cVOCs exceed Maryland groundwater standards throughout a large portion of the investigation area, and at multiple depths. cVOCs were at concentrations greater than groundwater standards at currently site perimeter wells to the north, east, and west.1,4 dioxane was detected primarily in groundwater samples collected from the upper and intermediate surficial aquifer zones and is co-located in areas containing the highest concentrations of cVOCs primarily near Pond 1 and the area east and west of Pond 1. TPH-DRO and TPH-GRO were detected in 22% and 50% of the 2012 upper surficial aquifer groundwater samples, respectively. Most concentrations exceeded the MDE groundwater standard of 47 µg/L.
2012 Taxiway Tango Soil Characterization Report (Tetra Tech, 2013b)	January 2013	August 2012	A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to clear test pit areas.	None	None	18 test pits were excavated. Thirty-seven discrete subsurface soils samples were collected. Analyzed for VOCs, SVOCs, PCBs, total metals, and TPH-DRO and TPH-GRO,	None	None	None	None	The investigation was conducted in the vicinity of Taxiway Tango to refine the lateral and vertical extent of landfill material and soil impacts along Taxiway Tango. Materials uncovered during the 2012 test pit excavations included brick, metal wire, sheet metal, glass, burnt wood, porcelain and ceramics, plywood or particle board, concrete and rebar, and a yellow material (potentially zinc chromate paint). Petroleum odors and elevated field VOC readings (e.g., above background levels) were also observed in several of the test pits.
Geotechnical Subsurface Investigation Report (Tetra Tech, 2013c)	January 2013	September 2012	A utility survey consisting of a combination of electromagnetic resistivity / conductivity, line locating, and ground penetrating radar was used to clear the boring areas.	None	Nine soil borings were advanced.	Nine test pits were excavated. Analyzed for VOCs, SVOCs, PCBs, TPH-DRO and TPH-GRO, metals, corrosivity (pH), ignitability, and toxicity characteristic leaching procedure (TCLP).	None	None	None	None	The subsurface and geotechnical investigation was conducted at the DRA to evaluate subsurface conditions within the footprint of a proposed groundwater treatment facility, establish foundation design criteria and recommendations for design of the treatment building foundations, and provide pertinent geotechnical site recommendations for construction. Fill materials were encountered in all of the test pits, with concrete, glass, brick, metal wire waste, and wood waste, including stumps, processed wood, and burnt wood observed in some of the test pits. Elevated concentrations of chlorobenzene and BTEX were detected in soil samples collected from seven and ten feet at test pit A-74 located between dump road and wells DMW4S/I/D, and elevated BTEX in soil greater than 15 feet at test pit A-68.
2012 Review and Analysis of Historical Aerial Photographs (Tetra Tech, 2013d)	January 2013	N/A	None	None	None	None	None	None	None	None	Aerial photographs from 1938 to 1998 and other historical documents such as topographic maps and design drawings were acquired and reviewed to identify possible historical areas of environmental concern and to assess the previous history of the DRA and MSA. Overall, the review of aerial photographs and drawings show that the DRA was used as a dump when it was filled in during the 1950s. The review indicated the presence of several pits. Photographs from the mid-1950s show black staining on the sidewalls and black material on the surface of two constructed pits, indicating dumping had occurred. Engineering drawings also identified the locations of acid and oil disposal pits, one of which currently exists as Pond 1 at the DRA. The aerial photographs also identified two smaller possible pits that may have been used to dump material in what is now referred to as the Petroleum Hydrocarbon Area. Another former ground scar or possible pit area was also identified near the CRA east of the airport runway.

1 Does not include investigations conducted for Frog Mortar Creek, which is located adjacent to the DRA.

Acronyms / Abbreviations:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, xylenes
CERCLA - Comprehenive Environmental Response, Compensation, and Liabiity Act
cis-1,2-DCE - cis-1,2-dichlroethene
COD - chemical oxygen demand
cVOCs - chlorinated volatile organic compounds
DPT - direct push technology
DRA - Dump Road Area
DRO - diesel-range organics
EM - electromagnetic
ET - evapotranspiration
GPR - ground-penetrating radar
GRO - gasoline-range organics
GW - groundwater
LM - limited magnetometry
MAA - Maryland Aviation Administration
MCL - maximum contaminant level
MDANG - Maryland Air National Guard
MDE - Maryland Department of the Environment
MES - Maryland Environmental Services, Inc
mg/kg - milligram per kilogram
µg/L - micrograms per liter
MIP - membrane interface probe
MSA - Martin State Airport
MW - monitoring well
NPL - National Priorities List
PA - preliminary assessment
PCB - polychlorinated biphenyl
ppmv - parts per million volume
pVOCs - petroleum volatile organic compounds
PZ - piezometer
RCRA - Resource Conversation and Recovery Act
S/I/D - surficial/intermediate/deep (well depths)
SEM/AVS - simultaneously -extracted metals/acid-volatile sulfide
SVOCs - semi-volatile organic compounds
TCE - trichloroethene
TCLP - toxicity characteristic leaching procedure
TOC - total organic carbon
TPH - total petroleum hydrocarbons
USEPA - United States Environmental Protection Agency
VC - vinyl chloride
VOC - volatile organic compound

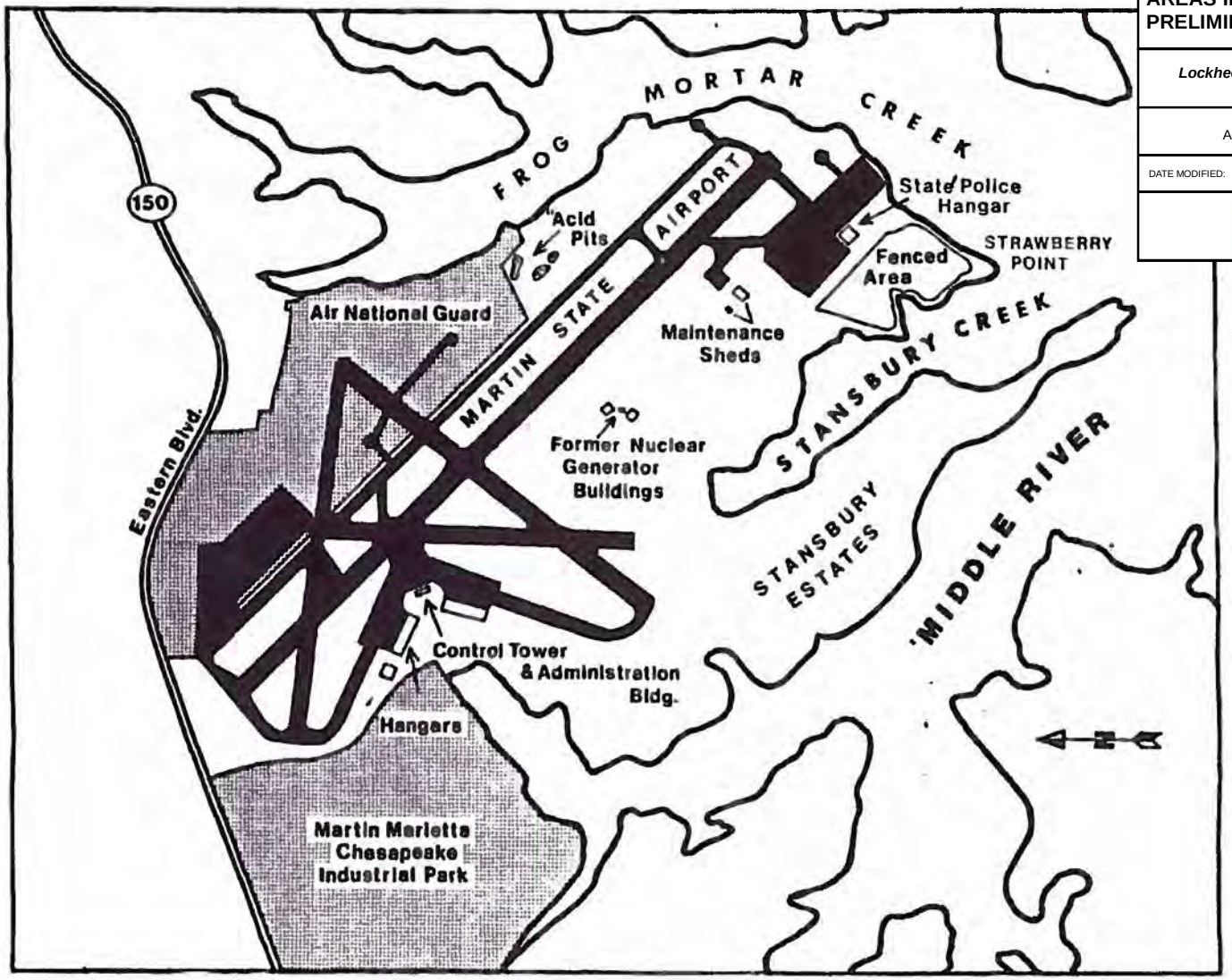
FIGURE 2-1

AREAS IDENTIFIED IN THE 1989 PRELIMINARY ASSESSMENT

Lockheed Martin, Martin State Airport
Middle River, Maryland

AS NOTED	N
DATE MODIFIED: 5/4/12	CREATED BY: MP

TETRA TECH



SOURCE: MDE (1989).

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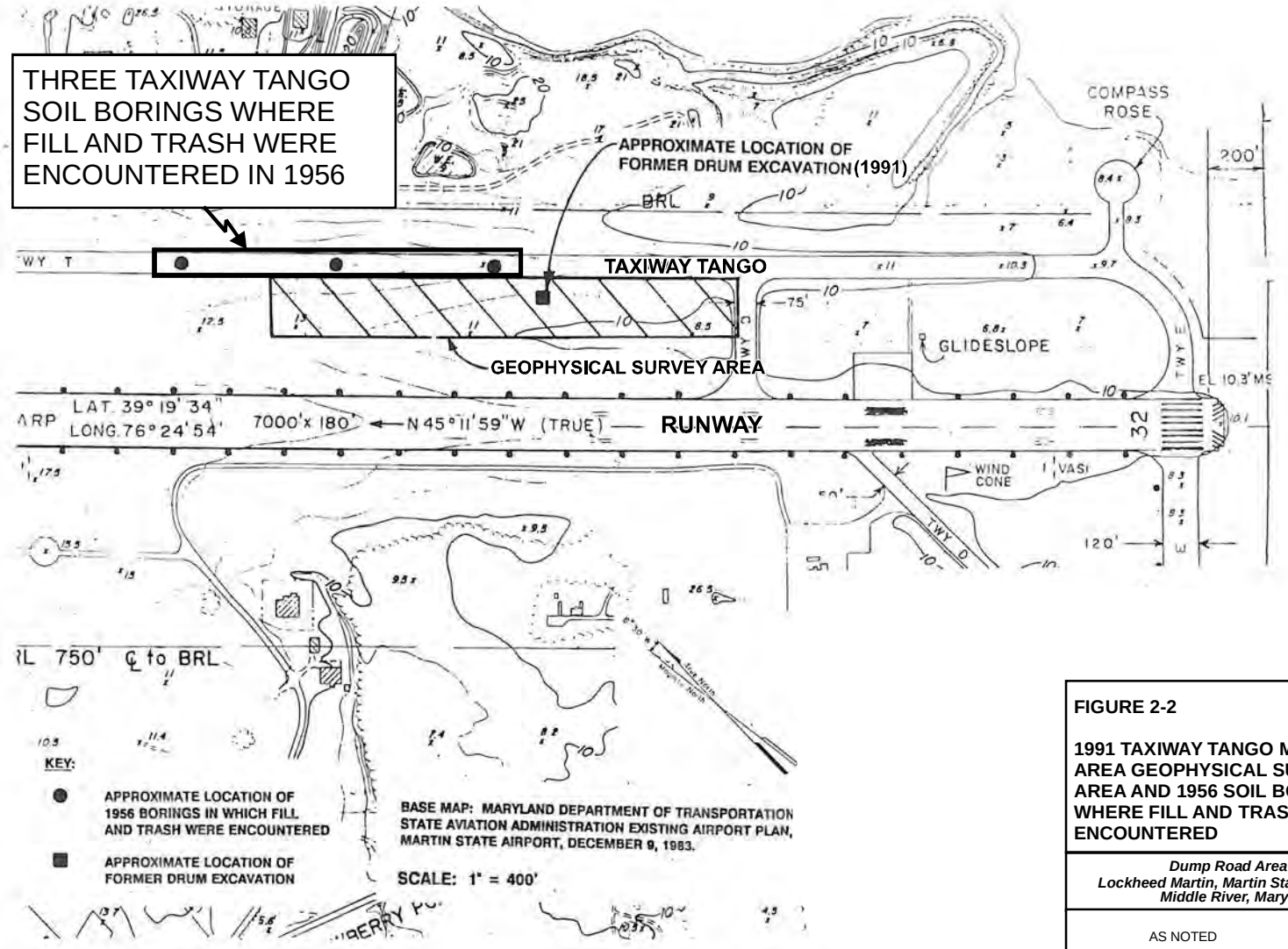

SOURCE: HANDEX, 1992.

FIGURE 2-2

1991 TAXIWAY TANGO MEDIAN AREA GEOPHYSICAL SURVEY AREA AND 1956 SOIL BORINGS WHERE FILL AND TRASH WERE ENCOUNTERED

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

AS NOTED	N
DATE MODIFIED: 5/4/12	CREATED BY: MP

TETRA TECH

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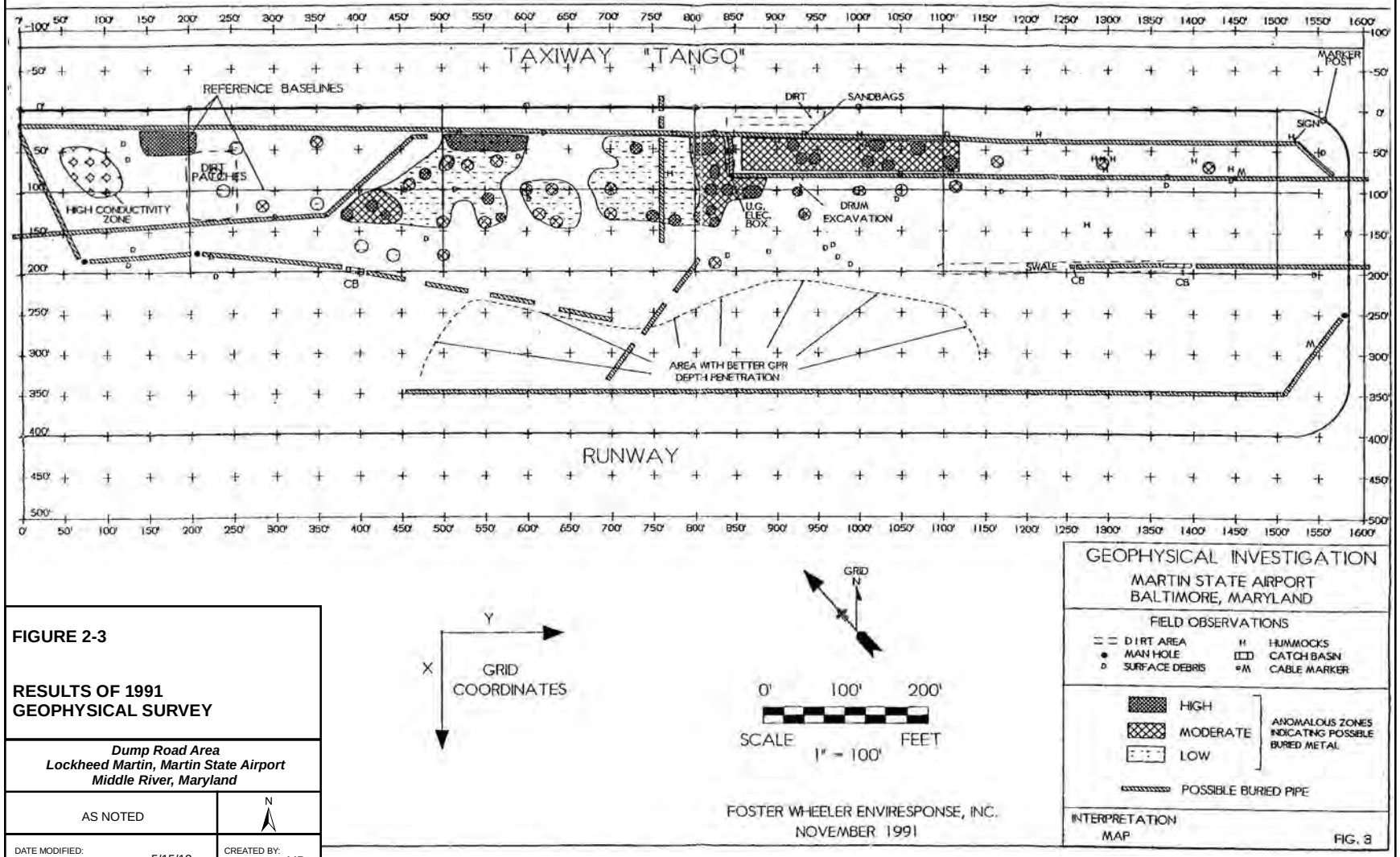

FIGURE 2-3

RESULTS OF 1991 GEOPHYSICAL SURVEY

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

AS NOTED	N
DATE MODIFIED: 5/15/12	CREATED BY: MP

TETRA TECH

SOURCE: HANDEX, 1992.

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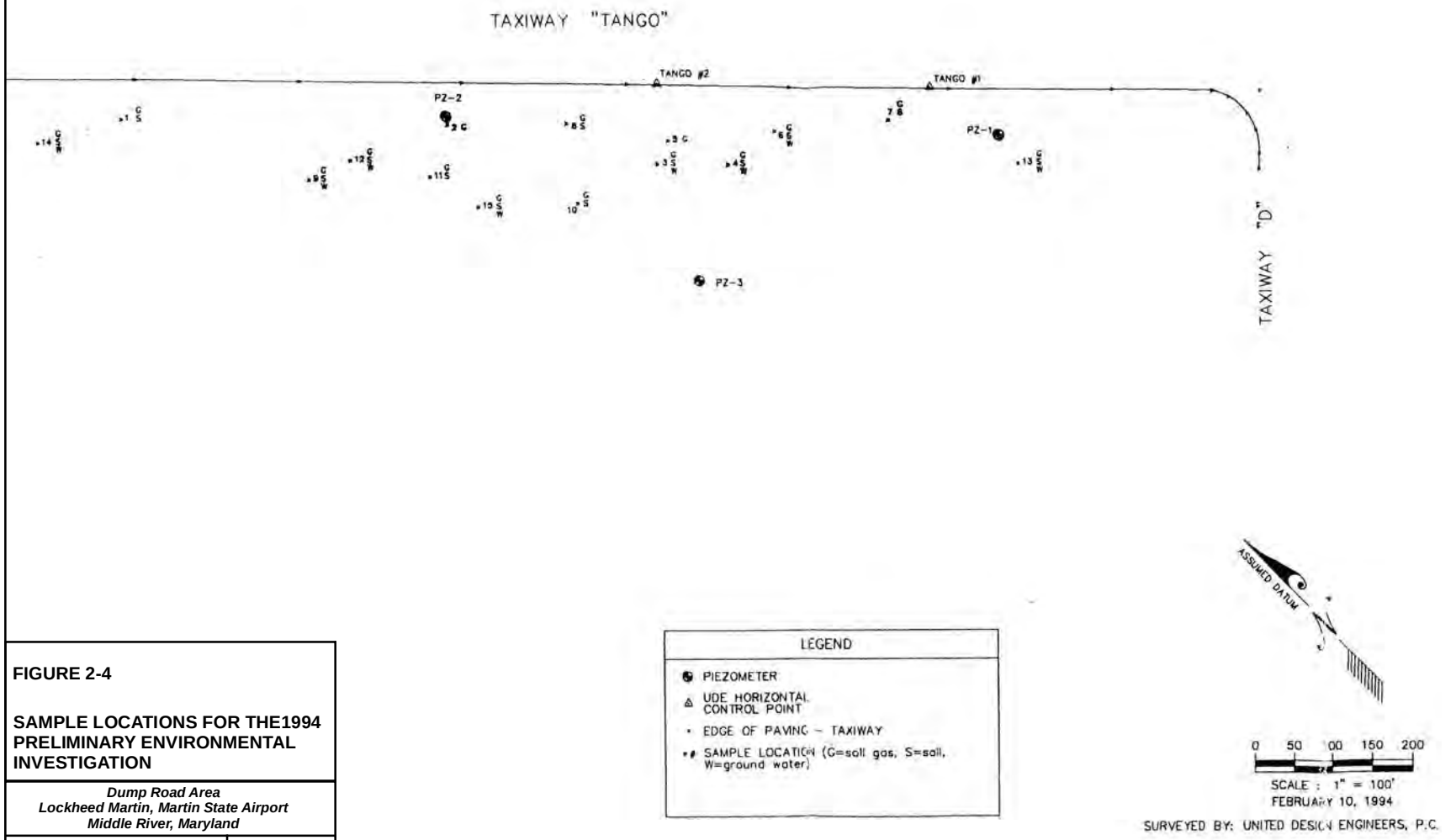


FIGURE 2-4

SAMPLE LOCATIONS FOR THE1994 PRELIMINARY ENVIRONMENTAL INVESTIGATION

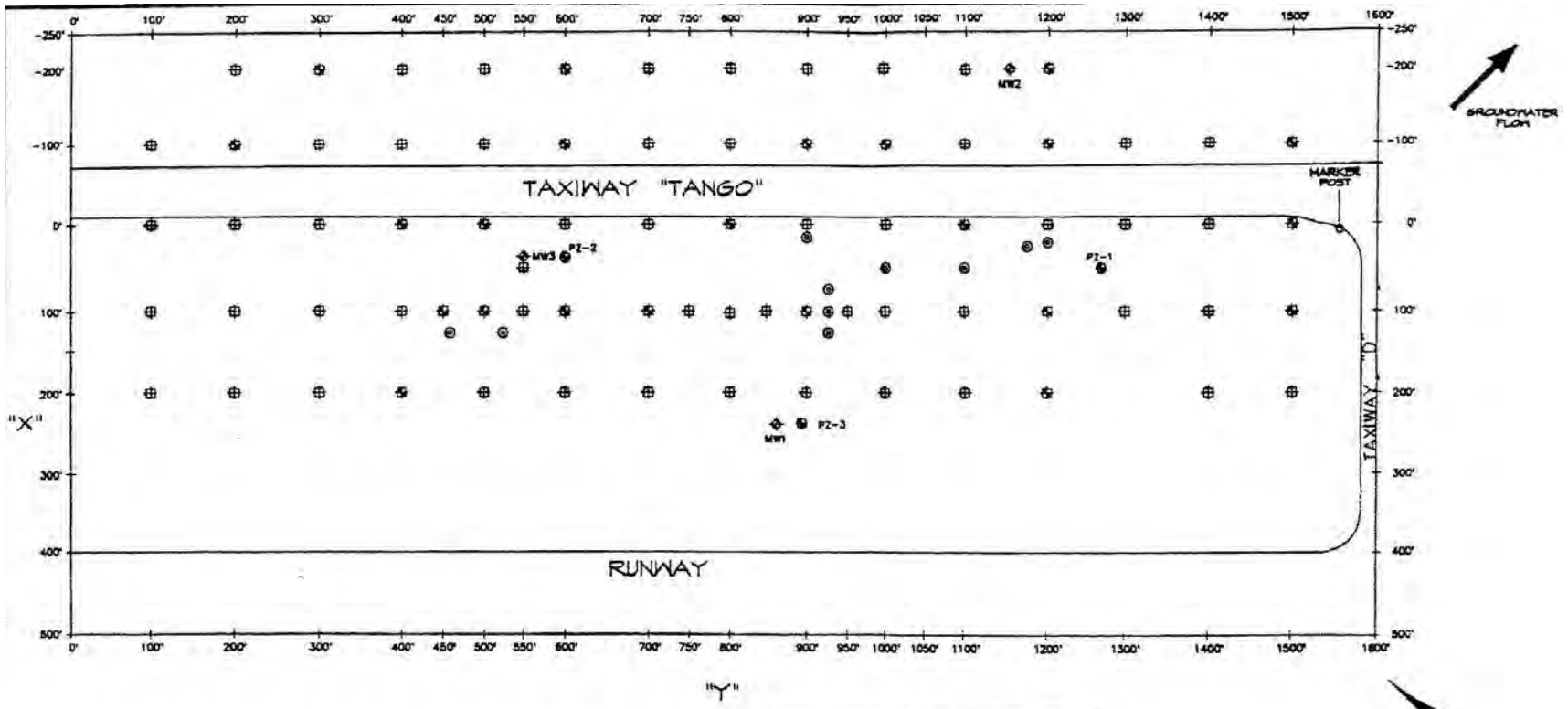
Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

AS NOTED	N
DATE MODIFIED: 5/15/12	CREATED BY: MP

TETRA TECH

SOURCE: MES, 1994.

K:\Graphics\Lockheed\MSA\Sample Locations for 1993-1994 Preliminary Invest.cdr



LEGEND

- PIEZOMETER
- MW1 MONITORING WELL LOCATION
- ADDITIONAL SOIL PROBES BEYOND ORIGINAL SCOPE
- SOIL SAMPLE LOCATION
- SOIL AND GROUND WATER SAMPLE LOCATION

N

0' 50' 100' 150' 200'
SCALE IN FEET

NOTE: THE "X" AND "Y" COORDINATES REPRESENT A GRID SYSTEM WHICH IS USED TO REFERENCE SAMPLE LOCATIONS.

FIGURE 2-5

SAMPLE LOCATIONS FOR THE JULY-AUGUST 1994 CONFIRMATION INVESTIGATION

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

AS NOTED	N
DATE MODIFIED: 5/15/12	CREATED BY: MP

TETRA TECH

SOURCE: MES 1995.

K:\Graphics\Lockheed\MSA\Sample Locations for July August 1994 Confirmation Invest.cdr

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Dump Road Soil Pond Sediment and GW.mxd)

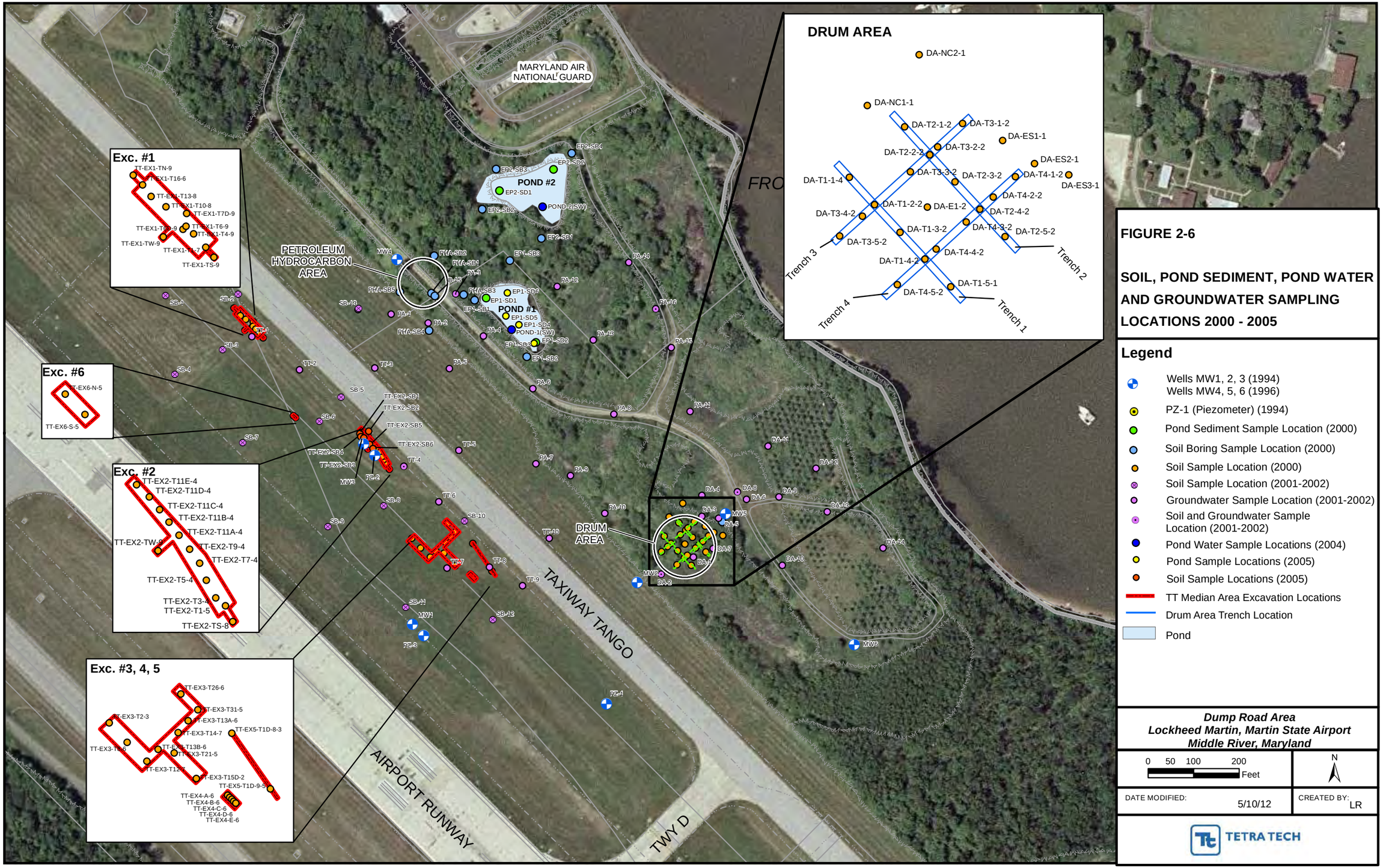


FIGURE 2-6

SOIL, POND SEDIMENT, POND WATER AND GROUNDWATER SAMPLING LOCATIONS 2000 - 2005

Legend

- Wells MW1, 2, 3 (1994) Wells MW4, 5, 6 (1996)
- PZ-1 (Piezometer) (1994)
- Pond Sediment Sample Location (2000)
- Soil Boring Sample Location (2000)
- Soil Sample Location (2000)
- Soil Sample Location (2001-2002)
- Groundwater Sample Location (2001-2002)
- Soil and Groundwater Sample Location (2001-2002)
- Pond Water Sample Locations (2004)
- Pond Sample Locations (2005)
- Soil Sample Locations (2005)
- TT Median Area Excavation Locations
- Drum Area Trench Location
- Pond

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 5/10/12

CREATED BY: LR

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater monitoring wells installed 1995 to 2003.mxd)
5/17/2012 -- 2:00:42 PM



FIGURE 2-7

GROUNDWATER MONITORING WELL LOCATIONS 1994 - 2003

LEGEND

- GROUNDWATER MONITORING WELL INSTALLED IN 1994 AND 1996
- GROUNDWATER MONITORING WELL INSTALLED IN 2002
- GROUNDWATER MONITORING WELL INSTALLED IN 2003
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

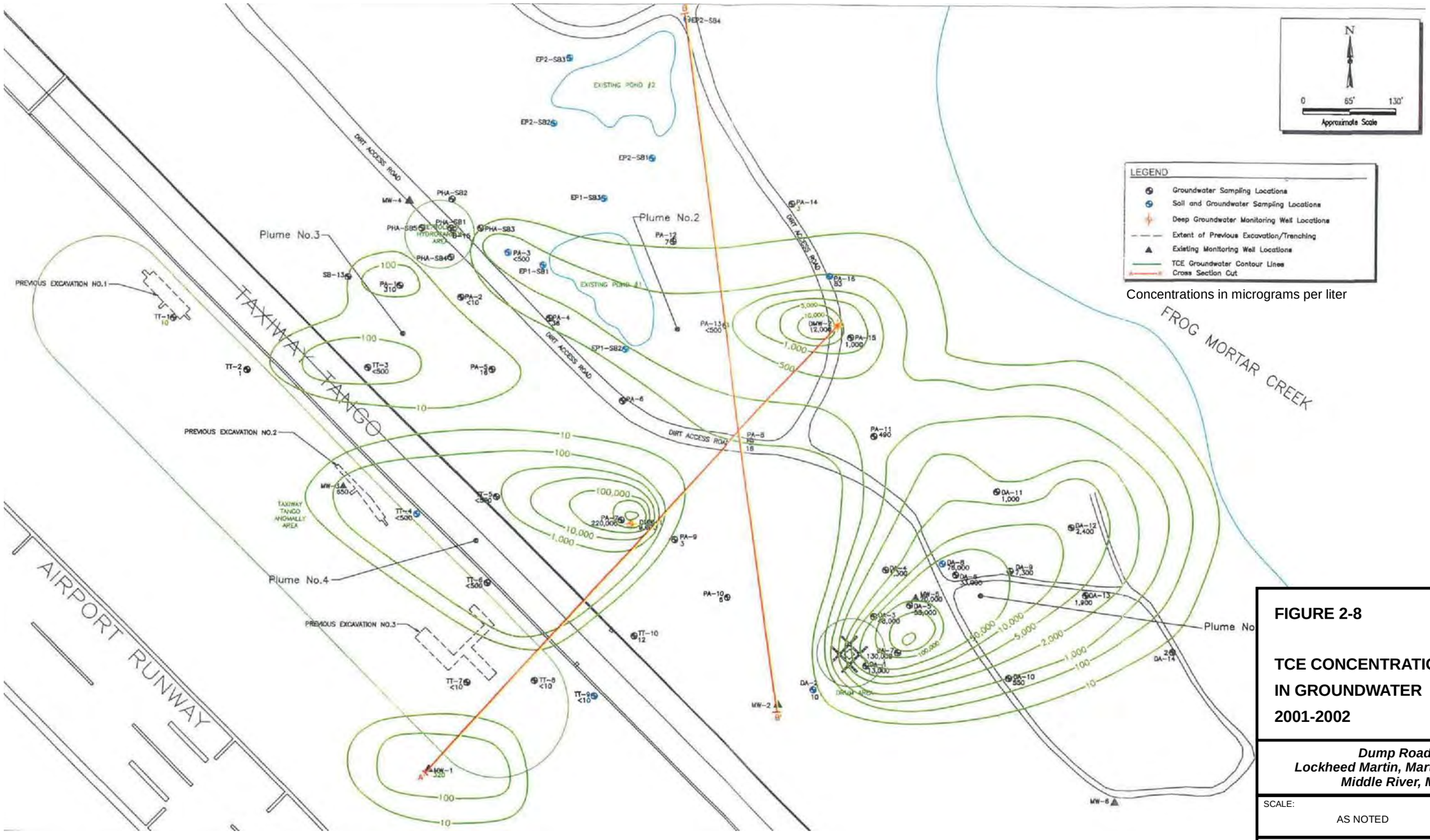
0 60 120 240 Feet

N

DATE MODIFIED: 5/17/12

CREATED BY: MP

TETRA TECH



SOURCE: TETRA TECH, 2002.

FIGURE 2-8

TCE CONCENTRATIONS IN GROUNDWATER 2001-2002

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

SCALE: AS NOTED

N

5/11/12

CREATED BY: LR

TETRA TECH

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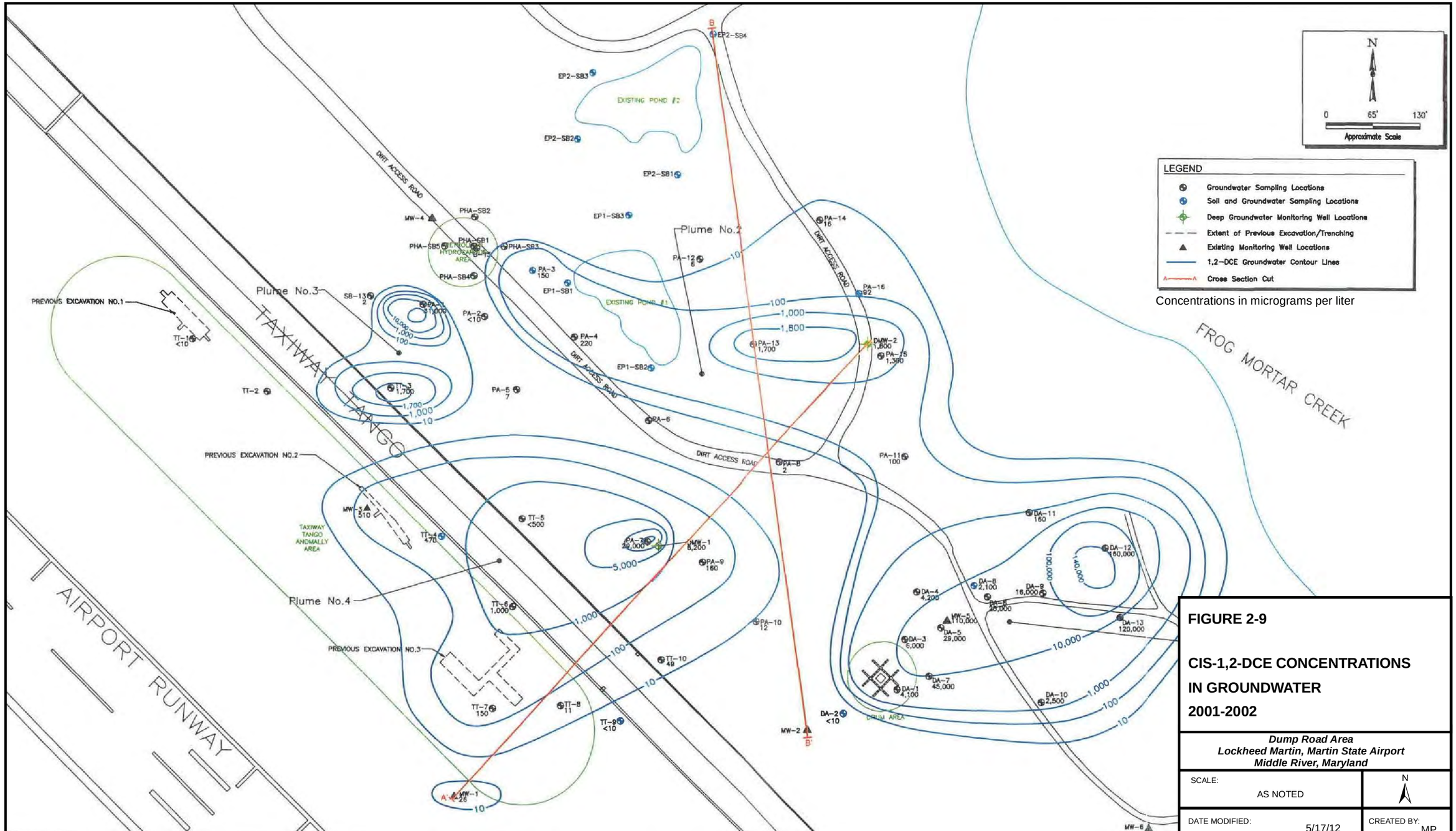

SOURCE: TETRA TECH, 2002.

FIGURE 2-9

CIS-1,2-DCE CONCENTRATIONS IN GROUNDWATER 2001-2002

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

SCALE: AS NOTED	N
DATE MODIFIED: 5/17/12	CREATED BY: MP

TETRA TECH

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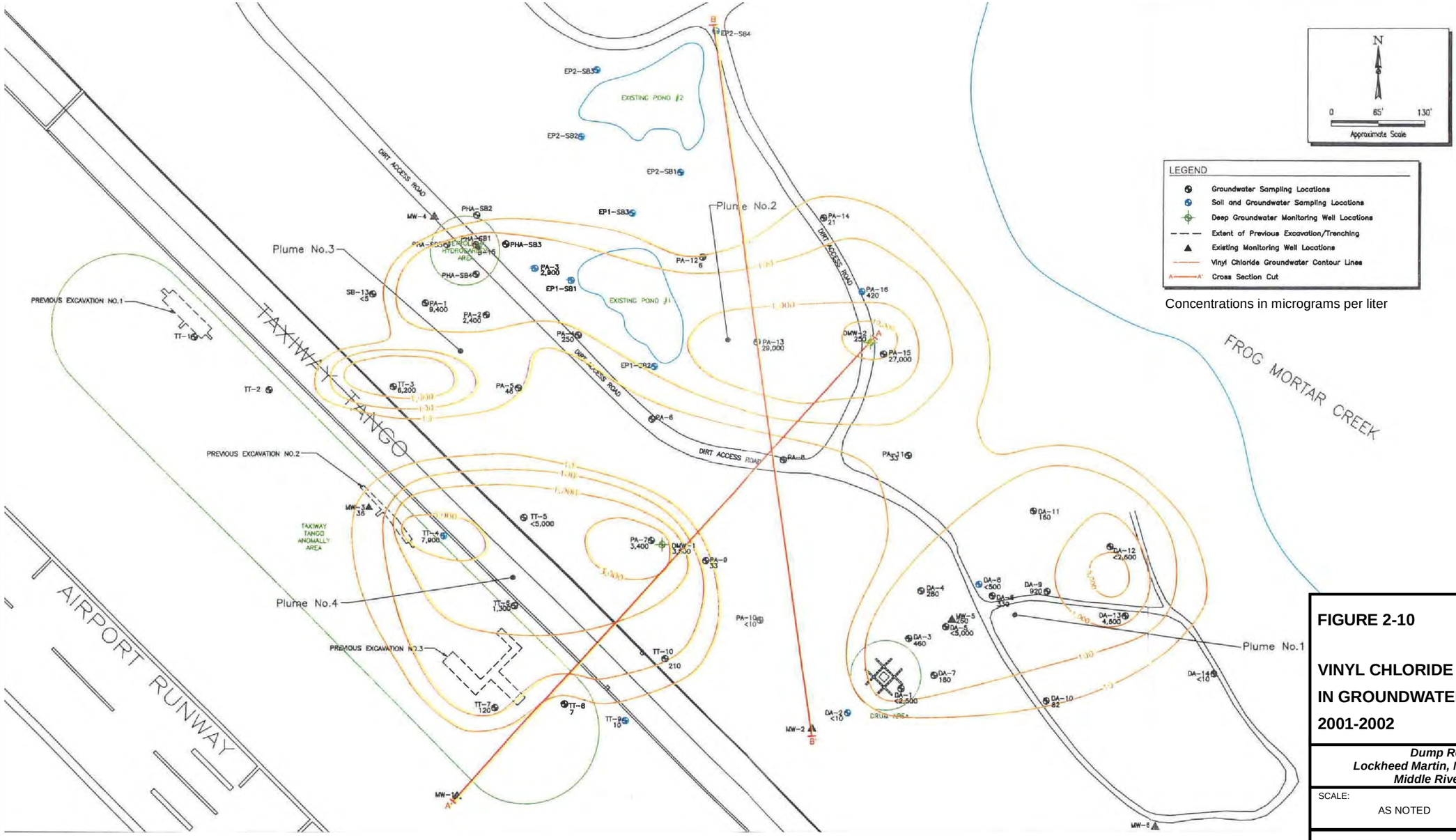

SOURCE: TETRA TECH, 2002.

FIGURE 2-10

VINYL CHLORIDE CONCENTRATIONS IN GROUNDWATER 2001-2002

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

SCALE: AS NOTED	N
DATE MODIFIED: 5/17/12	CREATED BY: MP

TETRA TECH

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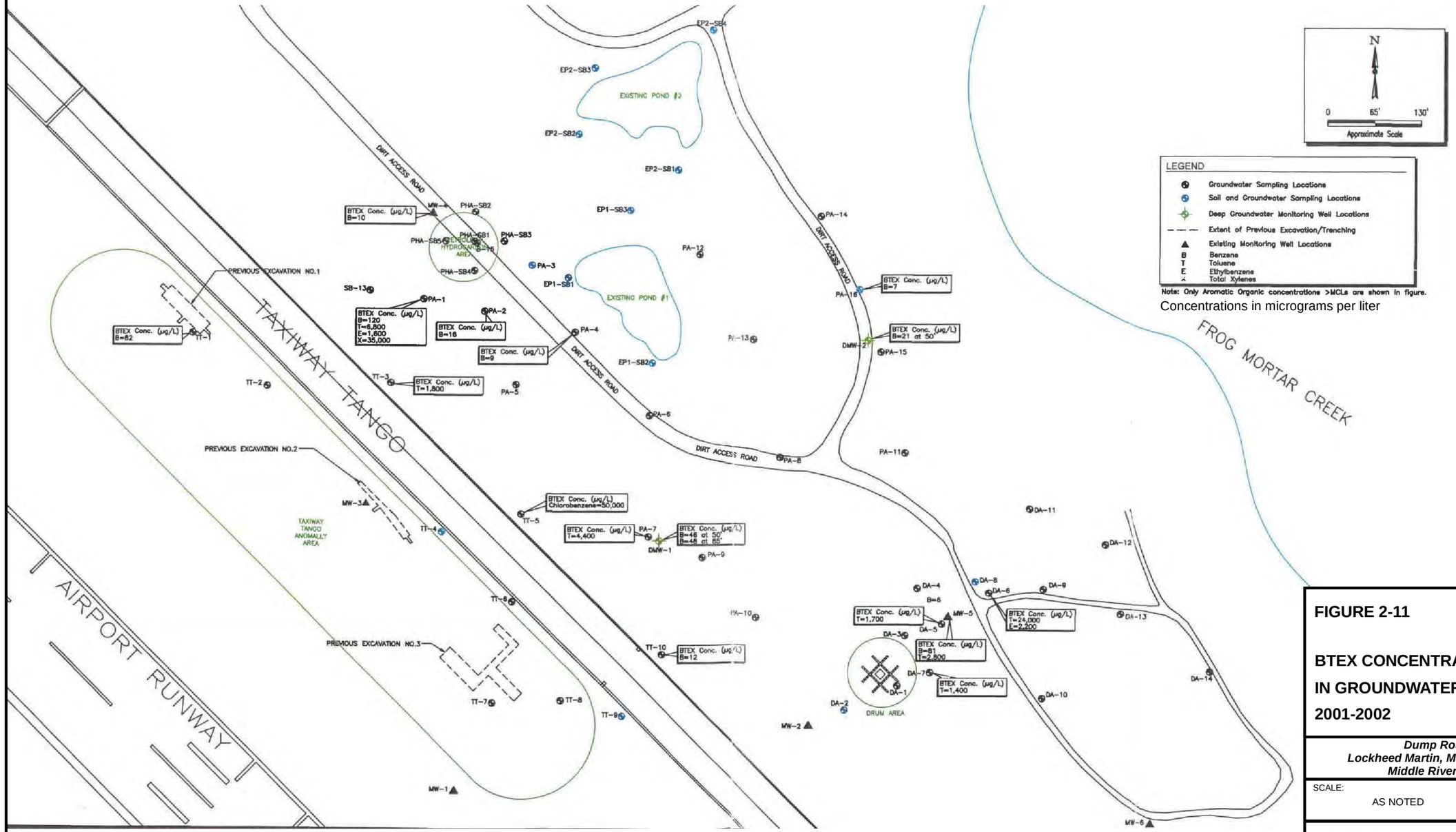

SOURCE: TETRA TECH, 2002.

FIGURE 2-11

BTEX CONCENTRATIONS IN GROUNDWATER 2001-2002

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

SCALE: AS NOTED

N

DATE MODIFIED: 5/17/12

CREATED BY: MP

TETRA TECH

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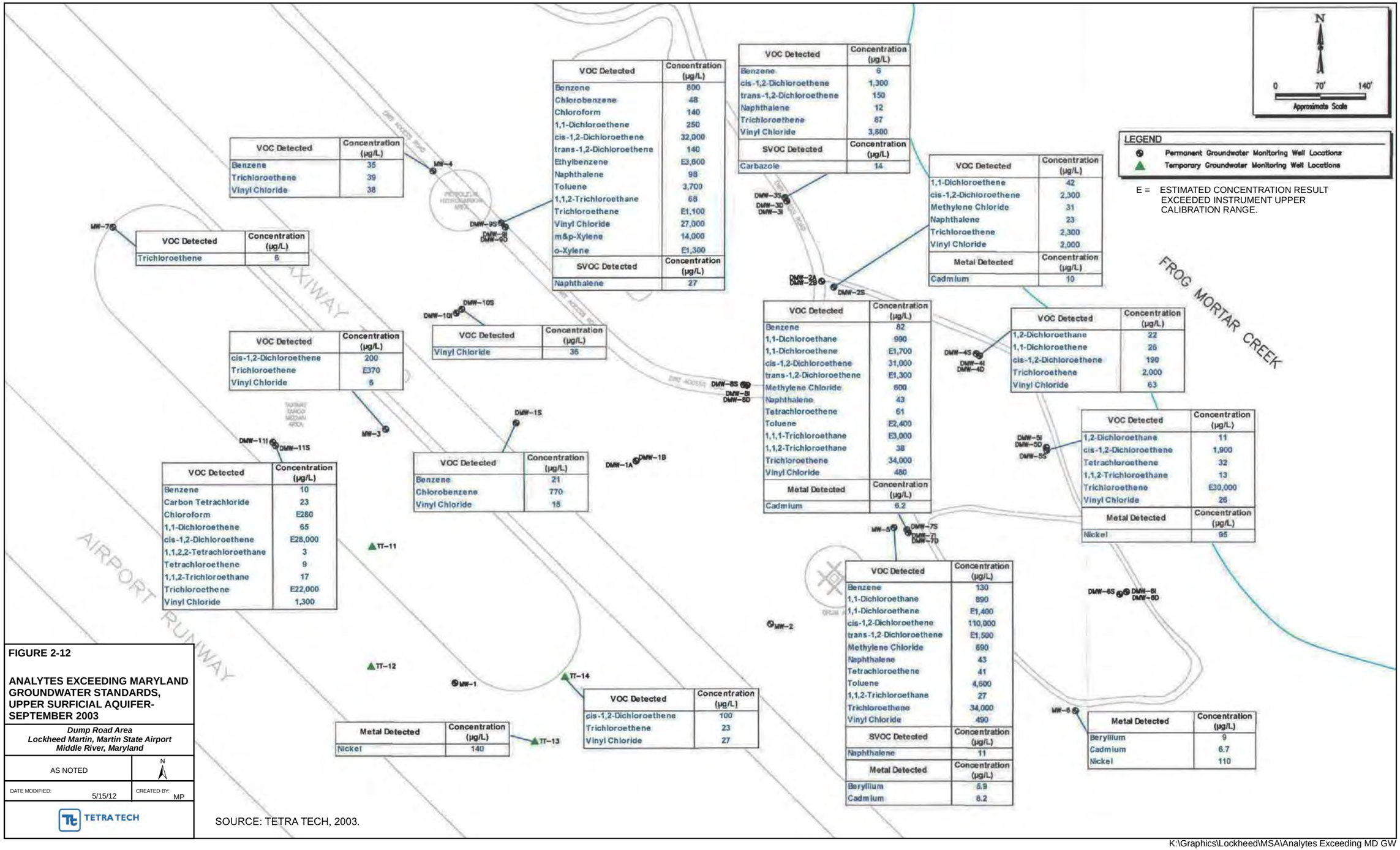


FIGURE 2-12

ANALYTES EXCEEDING MARYLAND GROUNDWATER STANDARDS, UPPER SURFICIAL AQUIFER- SEPTEMBER 2003

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

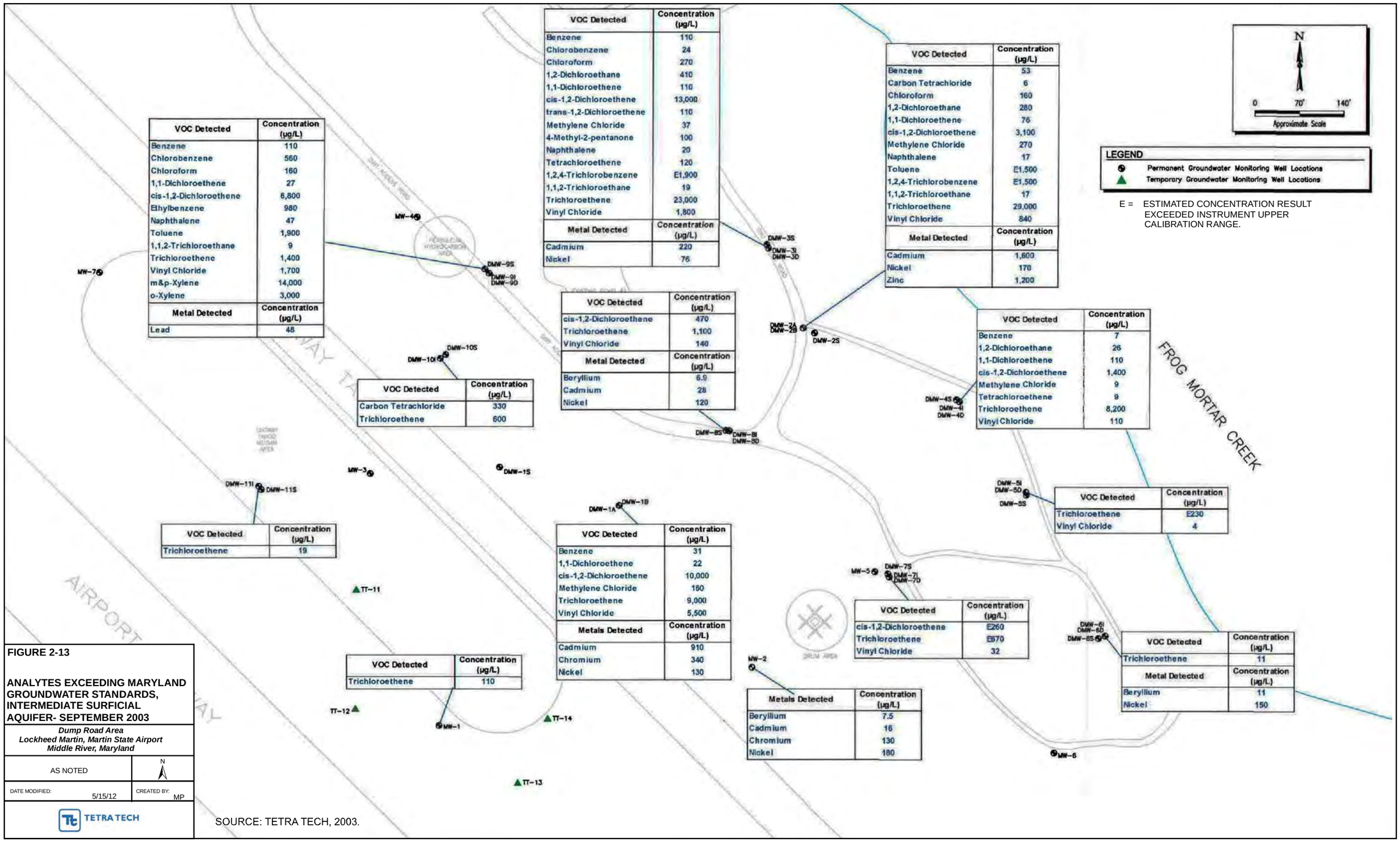
AS NOTED | N

DATE MODIFIED: 5/15/12 | CREATED BY: MP

TETRA TECH

SOURCE: TETRA TECH, 2003.

K:\Graphics\Lockheed\MSA\Analytes Exceeding MD GW Standards Upper Surficial Aquifer September 2003.cdr



VOC Detected	Concentration (µg/L)
Benzene	110
Chlorobenzene	560
Chloroform	160
1,1-Dichloroethene	27
cis-1,2-Dichloroethene	6,800
Ethylbenzene	980
Naphthalene	47
Toluene	1,900
1,1,2-Trichloroethane	9
Trichloroethene	1,400
Vinyl Chloride	1,700
m&p-Xylene	14,000
o-Xylene	3,000
Metal Detected	**Concentration (µg/L)**
Lead	48

VOC Detected	Concentration (µg/L)
Benzene	110
Chlorobenzene	24
Chloroform	270
1,2-Dichloroethane	410
1,1-Dichloroethene	110
cis-1,2-Dichloroethene	13,000
trans-1,2-Dichloroethene	110
Methylene Chloride	37
4-Methyl-2-pentanone	100
Naphthalene	20
Tetrachloroethene	120
1,2,4-Trichlorobenzene	E1,900
1,1,2-Trichloroethane	19
Trichloroethene	23,000
Vinyl Chloride	1,800
Metal Detected	**Concentration (µg/L)**
Cadmium	220
Nickel	76

VOC Detected	Concentration (µg/L)
Benzene	53
Carbon Tetrachloride	6
Chloroform	160
1,2-Dichloroethane	280
1,1-Dichloroethene	76
cis-1,2-Dichloroethene	3,100
Methylene Chloride	270
Naphthalene	17
Toluene	E1,500
1,2,4-Trichlorobenzene	E1,500
1,1,2-Trichloroethane	17
Trichloroethene	29,000
Vinyl Chloride	840
Metal Detected	**Concentration (µg/L)**
Cadmium	1,600
Nickel	170
Zinc	1,200

VOC Detected	Concentration (µg/L)
cis-1,2-Dichloroethene	470
Trichloroethene	1,100
Vinyl Chloride	140
Metal Detected	**Concentration (µg/L)**
Beryllium	6.9
Cadmium	28
Nickel	120

VOC Detected	Concentration (µg/L)
Benzene	7
1,2-Dichloroethane	26
1,1-Dichloroethene	110
cis-1,2-Dichloroethene	1,400
Methylene Chloride	9
Tetrachloroethene	9
Trichloroethene	8,200
Vinyl Chloride	110

VOC Detected	Concentration (µg/L)
Carbon Tetrachloride	330
Trichloroethene	600

VOC Detected	Concentration (µg/L)
Trichloroethene	E230
Vinyl Chloride	4

VOC Detected	Concentration (µg/L)
Trichloroethene	19

VOC Detected	Concentration (µg/L)
Benzene	31
1,1-Dichloroethene	22
cis-1,2-Dichloroethene	10,000
Methylene Chloride	160
Trichloroethene	9,000
Vinyl Chloride	5,500
Metals Detected	**Concentration (µg/L)**
Cadmium	910
Chromium	340
Nickel	130

VOC Detected	Concentration (µg/L)
cis-1,2-Dichloroethene	E260
Trichloroethene	E870
Vinyl Chloride	32

VOC Detected	Concentration (µg/L)
Trichloroethene	11
Metal Detected	**Concentration (µg/L)**
Beryllium	11
Nickel	150

VOC Detected	Concentration (µg/L)
Trichloroethene	110

Metals Detected	Concentration (µg/L)
Beryllium	7.5
Cadmium	16
Chromium	130
Nickel	180

FIGURE 2-13

ANALYTES EXCEEDING MARYLAND GROUNDWATER STANDARDS, INTERMEDIATE SURFICIAL AQUIFER- SEPTEMBER 2003

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

AS NOTED | N

DATE MODIFIED: 5/15/12 | CREATED BY: MP

TETRA TECH

SOURCE: TETRA TECH, 2003.

K:\Graphics\Lockheed\MSA\Analytes Exceeding MD GW Standards Intermediate Surficial Aquifer September 2003.cdr

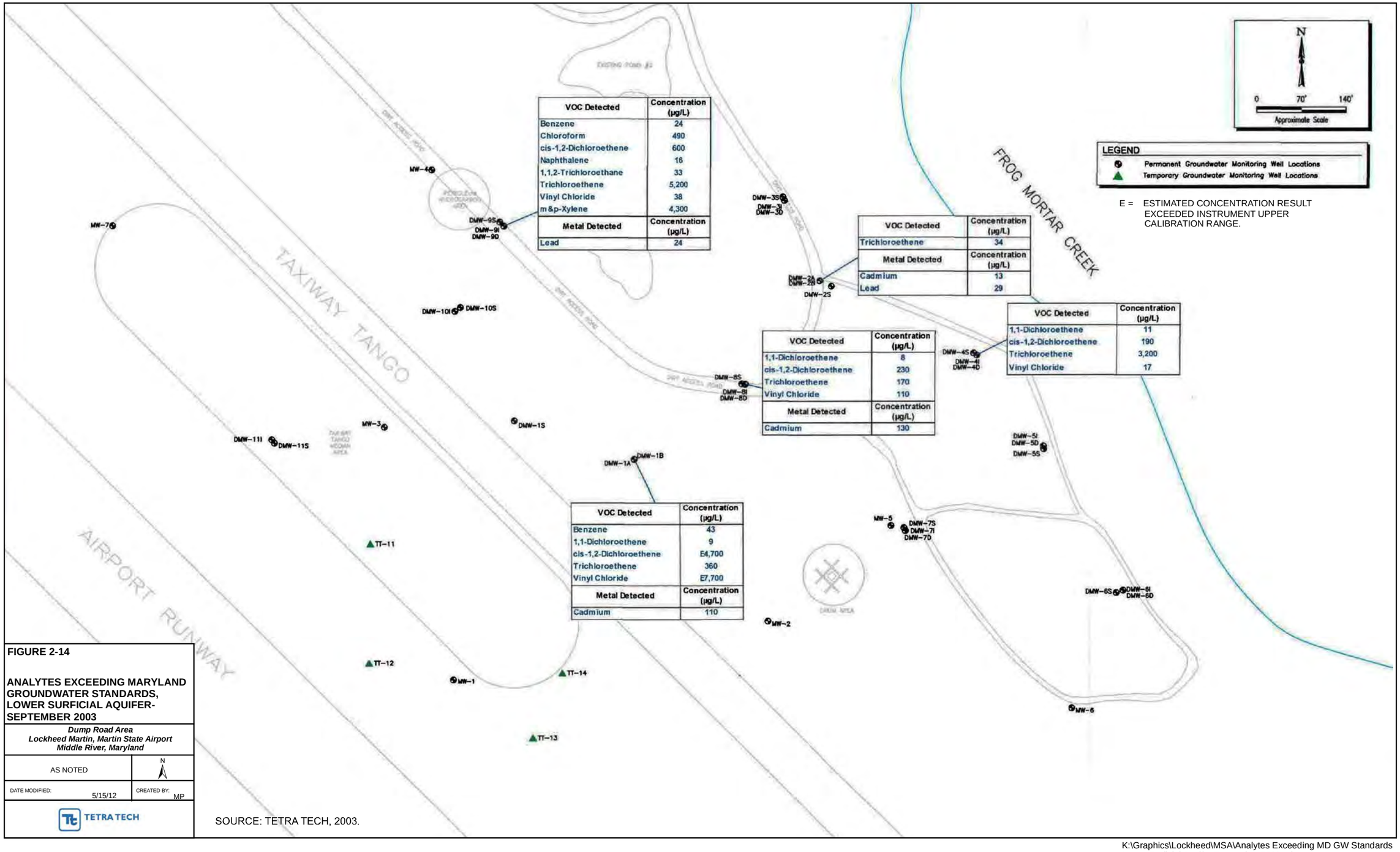


FIGURE 2-14

ANALYTES EXCEEDING MARYLAND GROUNDWATER STANDARDS, LOWER SURFICIAL AQUIFER- SEPTEMBER 2003

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

AS NOTED	N
DATE MODIFIED: 5/15/12	CREATED BY: MP

TETRA TECH

SOURCE: TETRA TECH, 2003.

K:\Graphics\Lockheed\MSA\Analytes Exceeding MD GW Standards Lower Surficial Aquifer September 2003.cdr

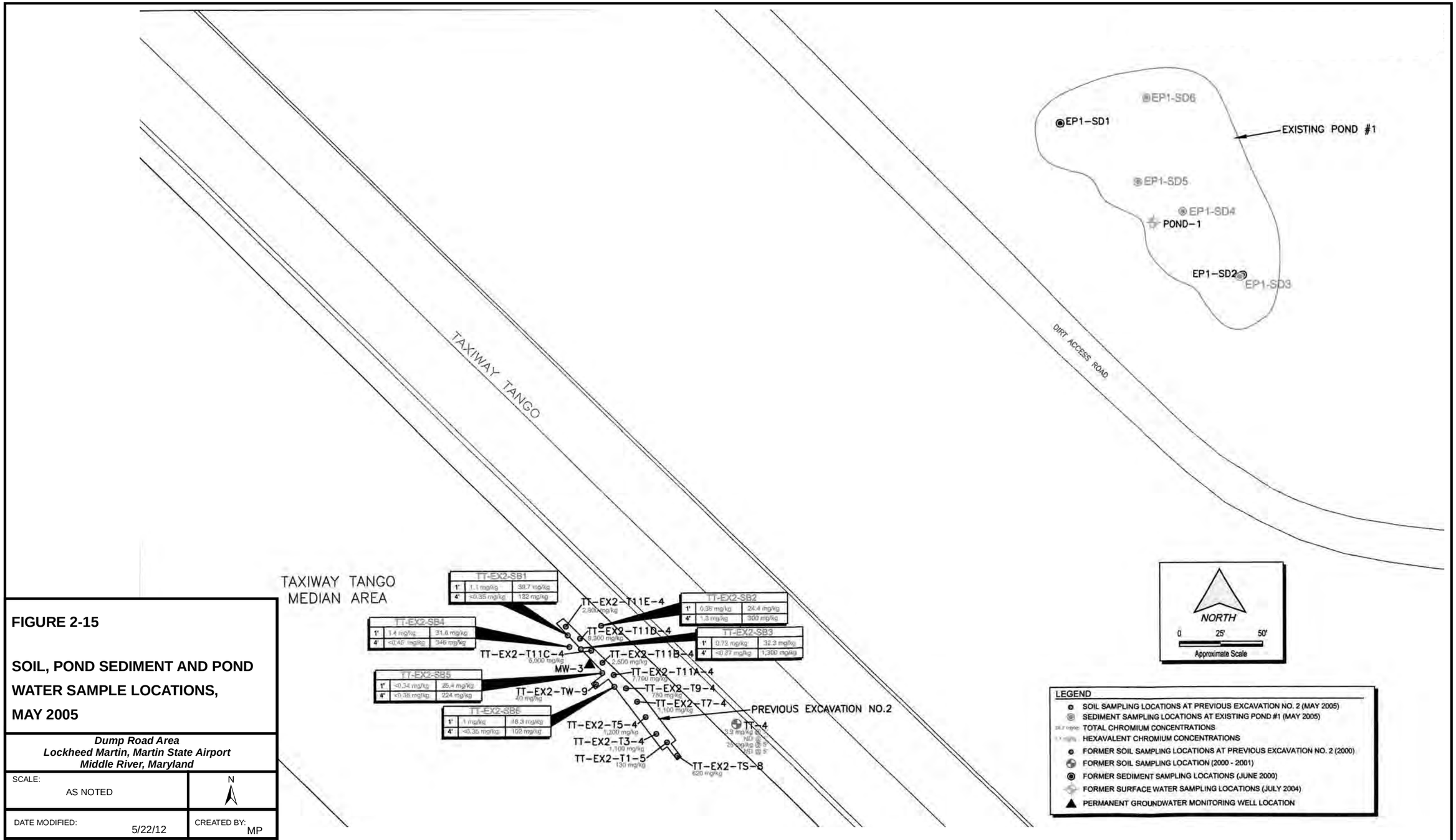


FIGURE 2-15

SOIL, POND SEDIMENT AND POND WATER SAMPLE LOCATIONS, MAY 2005

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

SCALE: AS NOTED

N

DATE MODIFIED: 5/22/12

CREATED BY: MP

TETRA TECH

K:\graphics\lockheed\msa\Soil_Pond Sediment_ Pond Water Samples_May2005.cdr

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater monitoring wells locations through 2011.mxd)
5/17/2012 -- 3:09:45 PM



FIGURE 2-16

GROUNDWATER MONITORING WELL LOCATIONS THROUGH 2011

LEGEND

- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL INSTALLED 1994 - 2003
- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL INSTALLED 2007 - 2008
- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL OR PIEZOMETER INSTALLED 2010 - 2011
- DEEP CONFINED AQUIFER WELL INSTALLED 2008
- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL INSTALLED 1994 AND 2003; CURRENTLY ABANDONED
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 60 120 240 Feet

N

DATE MODIFIED: 10/07/11

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Dump Road Fig 3-4_12 10 2009_revised 051712.mxd)
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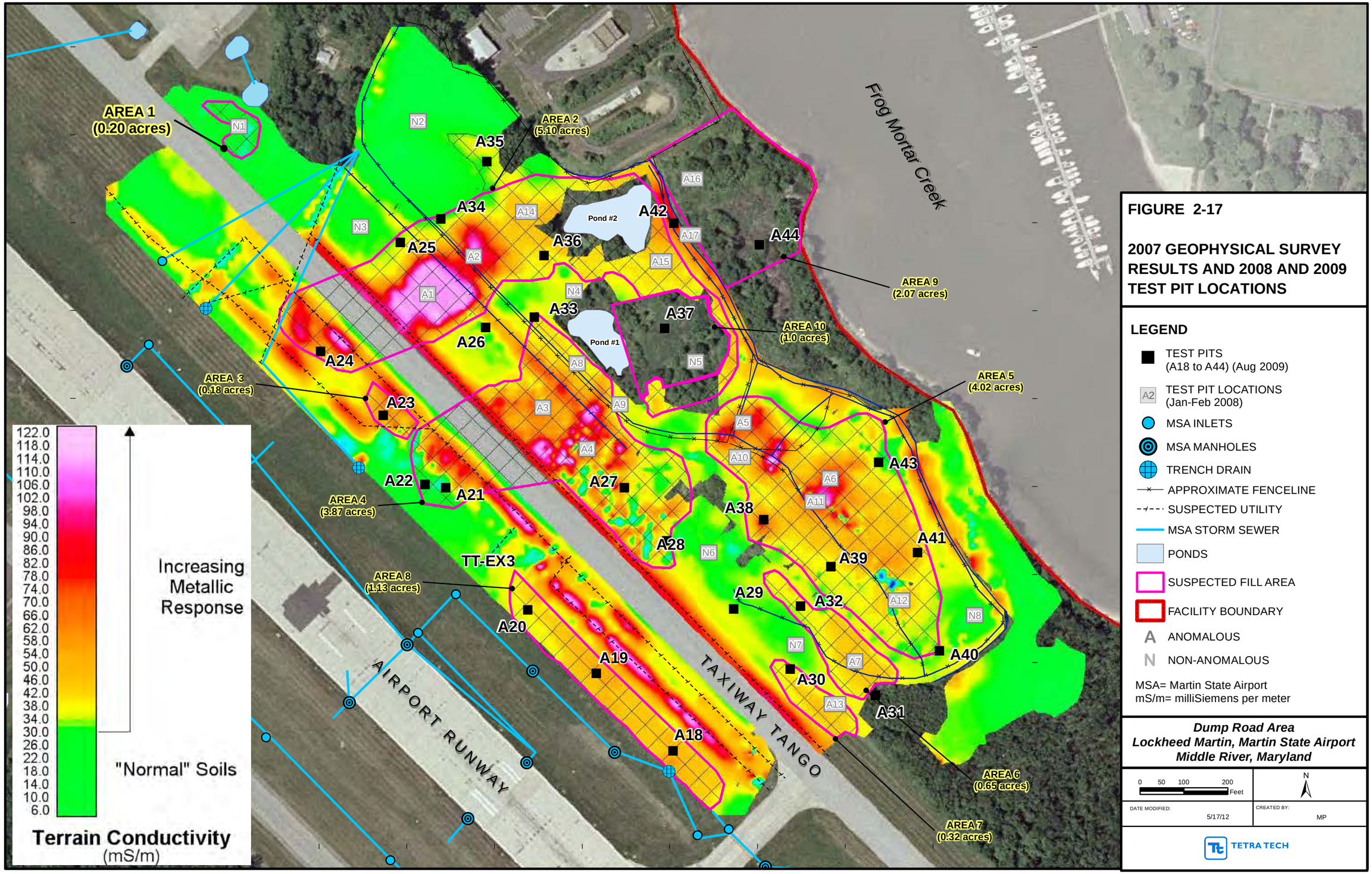

FIGURE 2-17

2007 GEOPHYSICAL SURVEY RESULTS AND 2008 AND 2009 TEST PIT LOCATIONS

LEGEND

- TEST PITS (A18 to A44) (Aug 2009)
- A2 TEST PIT LOCATIONS (Jan-Feb 2008)
- MSA INLETS
- MSA MANHOLES
- TRENCH DRAIN
- APPROXIMATE FENCELINE
- SUSPECTED UTILITY
- MSA STORM SEWER
- PONDS
- SUSPECTED FILL AREA
- FACILITY BOUNDARY
- A ANOMALOUS
- N NON-ANOMALOUS

MSA= Martin State Airport
mS/m= milliSiemens per meter

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 5/17/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Dump Road Fig 4-2_12 10 2009_revised 051812.mxd)
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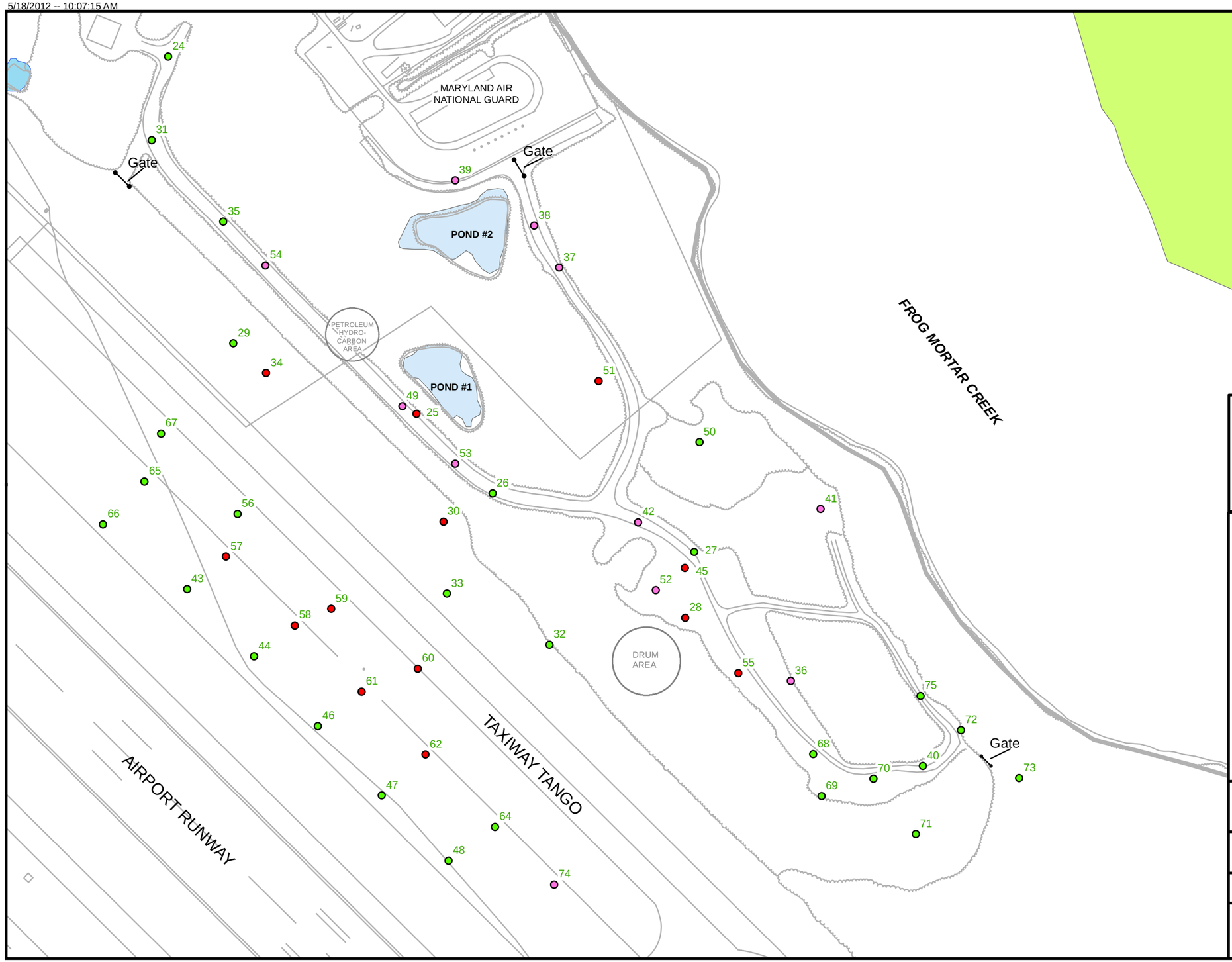

FIGURE 2-18

MIP INVESTIGATION RESULTS-2007 AND 2009

Legend

- > $1X10^7$ uV (ECD Response)
  Indicates Higher Levels of cVOCs
- >$1X10^6$ - $1X10^7$ uV (ECD Response)
  Indicates Presence of cVOCs
- <= $1X10^6$ uV (ECD Response)
  Indicates Absence of cVOCs

2007 = 1 - 52
2009 = 53 - 75

Pond

ECD= Electron Capture Detector
uV = MicroVolts
cVOC = Chlorinated Volatile Organic Compounds

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 5/18/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MIPS_23May08_revised 051812.mxd)
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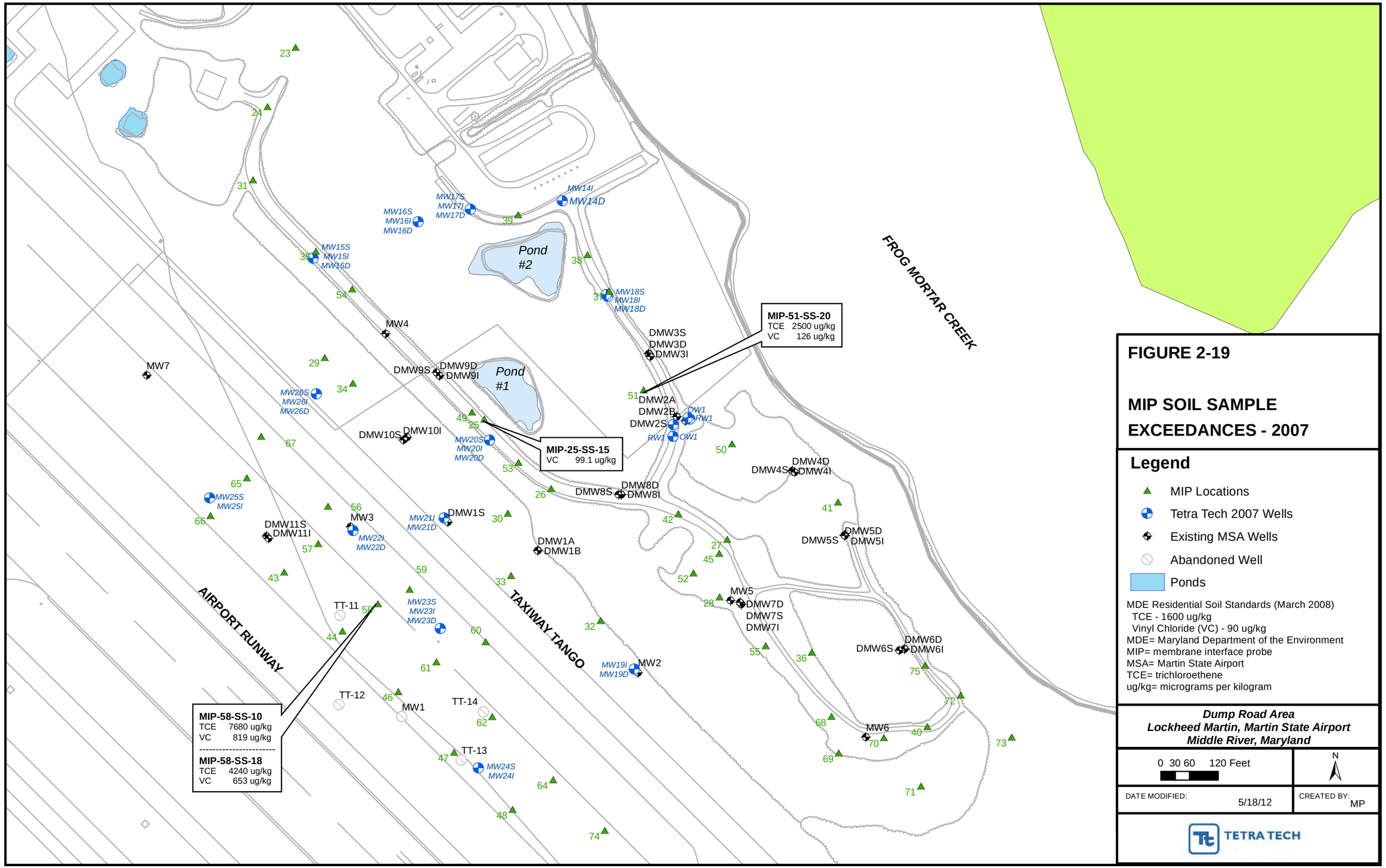

FIGURE 2-19

MIP SOIL SAMPLE EXCEEDANCES - 2007

Legend

- MIP Locations
- Tetra Tech 2007 Wells
- Existing MSA Wells
- Abandoned Well
- Ponds

MDE Residential Soil Standards (March 2008)
TCE - 1600 ug/kg
Vinyl Chloride (VC) - 90 ug/kg
MDE= Maryland Department of the Environment
MIP= membrane interface probe
MSA= Martin State Airport
TCE= trichloroethene
ug/kg= micrograms per kilogram

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 30 60 120 Feet

N

DATE MODIFIED: 5/18/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MIPS_Groundwater_23May08_revised 051812.mxd)
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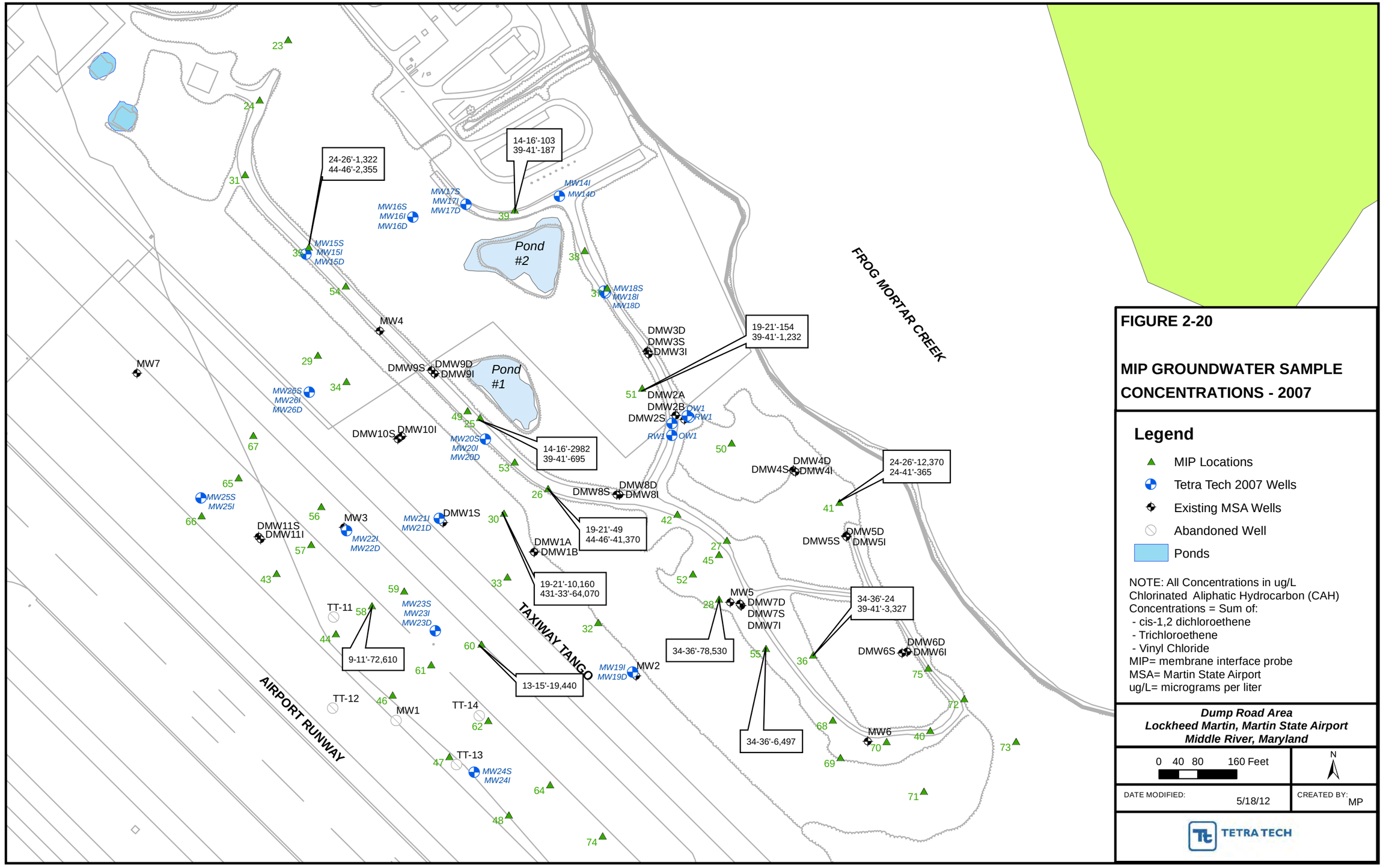

FIGURE 2-20

MIP GROUNDWATER SAMPLE CONCENTRATIONS - 2007

Legend

- MIP Locations
- Tetra Tech 2007 Wells
- Existing MSA Wells
- Abandoned Well
- Ponds

NOTE: All Concentrations in ug/L
Chlorinated Aliphatic Hydrocarbon (CAH)
Concentrations = Sum of:
- cis-1,2 dichloroethene
- Trichloroethene
- Vinyl Chloride

MIP= membrane interface probe
MSA= Martin State Airport
ug/L= micrograms per liter

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 40 80 160 Feet

N

DATE MODIFIED: 5/18/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater monitoring well locs Shallow Aquifer VOCs May June2011 Tags.mxd)
10/11/2011 -- 4:00:10 PM



FIGURE 2-21

TRICHLOROETHENE, CIS-1,2-DICHLOROETHENE AND VINYL CHLORIDE DETECTED IN GROUNDWATER-UPPER SURFICIAL AQUIFER, MAY-JUNE 2011

LEGEND

- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL OR PIEZOMETER SAMPLED
- DEEP CONFINED AQUIFER WELL (SAMPLED)
- ABANDONED WELL
- WELL OR PIEZOMETER NOT SAMPLED FOR VOCS THIS ROUND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND
- J ESTIMATED VALUE BELOW REPORTING LIMIT
- L RESULT IS BIASED LOW

CONCENTRATION IN RED EXCEEDS THE STANDARD

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)

TCE = Trichloroethene (standard = 5 ug/L)
c-12DCE = cis-1,2-Dichloroethene (standard = 70 ug/L)
VC = Vinyl chloride (standard = 2 ug/L)

For upper surficial aquifer or "S" wells sampled, the absence of a results tag or any of the three VOCs within a results tag indicate those VOCs/VOC were not detected.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 62.5 125 250 Feet

N

DATE MODIFIED: 10/11/11

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater monitoring well locs Intermediate Aquifer VOCs May June2011 Tags.mxd)
10/11/2011 -- 4:53:17 PM



FIGURE 2-22

TRICHLOROETHENE, CIS-1,2-DICHLOROETHENE AND VINYL CHLORIDE DETECTED IN GROUNDWATER-INTERMEDIATE SURFICIAL AQUIFER, MAY-JUNE 2011

LEGEND

- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL OR PIEZOMETER SAMPLED
- DEEP CONFINED AQUIFER WELL (SAMPLED)
- ABANDONED WELL
- WELL OR PIEZOMETER NOT SAMPLED FOR VOCS THIS ROUND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND
- J ESTIMATED VALUE BELOW REPORTING LIMIT
- L RESULT IS BIASED LOW
- CONCENTRATION IN RED EXCEEDS THE STANDARD

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)

TCE = Trichloroethene (standard = 5 ug/L)
c-12DCE = cis-1,2-Dichloroethene (standard = 70 ug/L)
VC = Vinyl chloride (standard = 2 ug/L)

For intermediate surficial aquifer or "I" wells sampled, the absence of a results tag or any of the three VOCs within a results tag indicate those VOCs/VOC were not detected.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 60 120 240 Feet

N

DATE MODIFIED: 10/11/11

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater monitoring well locs Lower Aquifer VOCs May June2011 Tags.mxd)
10/11/2011 -- 4:58:03 PM



FIGURE 2-23

TRICHLOROETHENE, CIS-1,2-DICHLOROETHENE AND VINYL CHLORIDE DETECTED IN GROUNDWATER-LOWER SURFICIAL AQUIFER, MAY-JUNE 2011

LEGEND

- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL OR PIEZOMETER SAMPLED
- DEEP CONFINED AQUIFER WELL (SAMPLED)
- ABANDONED WELL
- WELL OR PIEZOMETER NOT SAMPLED FOR VOCS THIS ROUND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND
- J ESTIMATED VALUE BELOW REPORTING LIMIT
- L RESULT IS BIASED LOW
- CONCENTRATION IN RED EXCEEDS THE STANDARD

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)

TCE = Trichloroethene (standard = 5 ug/L)
c-12DCE = cis-1,2-Dichloroethene (standard = 70 ug/L)
VC = Vinyl chloride (standard = 2 ug/L)

For lower surficial aquifer or "D" wells sampled, the absence of a results tag or any of the three VOCs within a results tag indicate those VOCs/VOC were not detected.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 60 120 240 Feet

N

DATE MODIFIED: 10/11/11

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Benzene May_June 2011.mxd)
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MW-35S
MW-34S
MW-34I
MW-34I
BENZENE 1.5
MW-34S
BENZENE 0.17 J
MARYLAND AIR NATIONAL GUARD
Parkside Marina
PZ-1 (S)
PZ-1 (I)
PZ-1 (D)
Conrad's Ruth Villa
MW-33S
MW-33I
Gate
MW-27D
MW-28I
MW-16I
BENZENE 0.64 J
MW-17S
MW-17I
MW-17D
MW-14I
MW-14D
Gate
MW-16S
MW-16I
MW-16D
MW-28I
BENZENE 7.8 J
MW-36S
MW-16S
BENZENE 7.7
POND #2
MW-15S
MW-15I
MW-15D
MW-18S
MW-18I
MW-18D
Frog Mortar Creek
MW-4
DMW9I
BENZENE 20 J
DMW9S
BENZENE 390 J
DMW-3S
DMW-3I
DMW-3D
MW-7
MW-26S
MW-26I
MW-26D
DMW9D
BENZENE 24 J
DMW-9S
DMW-9I
DMW-9D
DMW2S
BENZENE 9.3 J
MW-39S
POND #1
DMW-2A
DMW-2B
RW-1S
OW-1S
DMW-2S
MW-26S
BENZENE 17
MW-20I
BENZENE 2 J
RW-1I
OW-1I
DMW-10S
DMW-10I
MW-20S
MW-20I
MW-20D
MW-20S
BENZENE 23 J
DMW8I
BENZENE 3.5 J
DMW-4I
DMW-4D
DMW-4S
DMW-8S
MW-25S
MW-25I
DMW-8I
DMW-8D
MW-21I
MW-21D
DMW-11S
DMW-11I
MW-3
DMW-1S
DMW1B
BENZENE 15 J
DMW-5D
DMW-5S
DMW-5I
MW-22I
MW-22D
DMW1S
BENZENE 1.7 J
DMW-1A
DMW-1B
DMW-7S
DMW-7I
MW-5
DMW7-D
MW-37S
TT-11
MW-23S
BENZENE 3.2
DRUM AREA
MW-19I
BENZENE 1.1 J
DMW-6S
DMW-6I
DMW-6D
MW-23S
MW-23I
MW-23D
MW-19S
MW-19I
MW-19D
MW-2
TAXIWAY TANGO
TT-12
TT-14
MW-38S
MW-1
MW-6
TT-13
MW-32S
MW-32I
AIRPORT RUNWAY
MW-24S
MW-24I
MW-30I
MW-30D
MW-29D
MW-31D

FIGURE 2-24

BENZENE DETECTED IN GROUNDWATER-SURFICIAL AND DEEP CONFINED AQUIFERS, MAY-JUNE 2011

LEGEND

- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL OR PIEZOMETER SAMPLED
- DEEP CONFINED AQUIFER WELL (SAMPLED)
- ABANDONED WELL
- WELL OR PIEZOMETER NOT SAMPLED FOR VOCS THIS ROUND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND
- J ESTIMATED VALUE BELOW REPORTING LIMIT
- CONCENTRATION IN RED EXCEEDS THE STANDARD

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)

Benzene (standard = 5 ug/L)

For wells sampled, the absence of a results tag indicates the analyte was not detected.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 60 120 240 Feet

N

DATE MODIFIED: 10/20/11

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA Test Pit Locations_092911.mxd)
9/29/2011 -- 1:33:29 PM



FIGURE 2-25

TEST PIT LOCATION MAP
JUNE 2011
COMPASS ROSE AREA

LEGEND

- TEST PIT LOCATIONS (A45-A48) (2011)
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Dump Road Area
Lockheed Martin Martin State Airport
Middle River, Maryland

0 65 130 260 Feet

N

DATE MODIFIED: 9/29/11

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA cVOC Exceedances in MIPs 2011.mxd)
9/22/2011 -- 10:22:27 AM



FIGURE 2-26

MEMBRANE INTERFACE PROBE READINGS INDICATING HIGHLY ELEVATED CONCENTRATIONS OF CHLORINATED VOLATILE ORGANIC COMPOUNDS, JUNE TO JULY 2011 DUMP ROAD AND RUNWAY AREA

LEGEND

- MIP (JUNE - JULY 2011)
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

MIP - 86A* = Advancement of MIP- 86 was repeated due to elevated VOC response in first boring
MIP - 86B*
(3 to 49') Indicates zone containing some highly elevated chlorinated volitale organic compounds (cVOCs) readings (ECD readings greater thatn 4 * 10^6 microvolts)

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 70 140 280 Feet

N

DATE MODIFIED: 9/15/11

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA VOC Exceedances in Soil Borings 2011.mxd)
9/15/2011 -- 3:19:00 PM



FIGURE 2-27

VOLATILE ORGANIC COMPOUNDS EXCEEDING SOIL STANDARDS, JUNE 2011

LEGEND

- SOIL BORING (SB) (2011)
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Results are in micrograms per kilogram (ug/kg)

Dump Road Area
Lockheed Martin Martin State Airport
Middle River, Maryland

0 65 130 260 Feet

N

DATE MODIFIED: 9/15/11

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Major VOCs detected in wells installed in 2011.mxd)
5/18/2012 -- 12:32:14 PM



FIGURE 2-28

MAJOR VOCS DETECTED IN WELLS INSTALLED IN 2011

LEGEND

- GROUNDWATER MONITORING WELL INSTALLED AND SAMPLED IN 2011
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 70 140 280 Feet

N

DATE MODIFIED: 5/18/11

CREATED BY: MP

TETRA TECH



FIGURE 2-29

SOIL GAS LOCATIONS AND INDUSTRIAL USE SCREENING LEVEL EXCEEDANCES-2012, MUNITIONS AREA, MARYLAND AIR NATIONAL GUARD

LEGEND

- SOIL GAS SAMPLE LOCATION
- SG12 SOIL GAS SAMPLE NUMBER
- NOT SAMPLED
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Chloroform screening level is 53 ug/m^3

ug/m^3= micrograms per cubic meter

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 25 50 100 Feet

N

DATE MODIFIED: 1/22/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Munitions Area Mang Soil Gas Exceedances 3 23 12 revised 011013.mxd)
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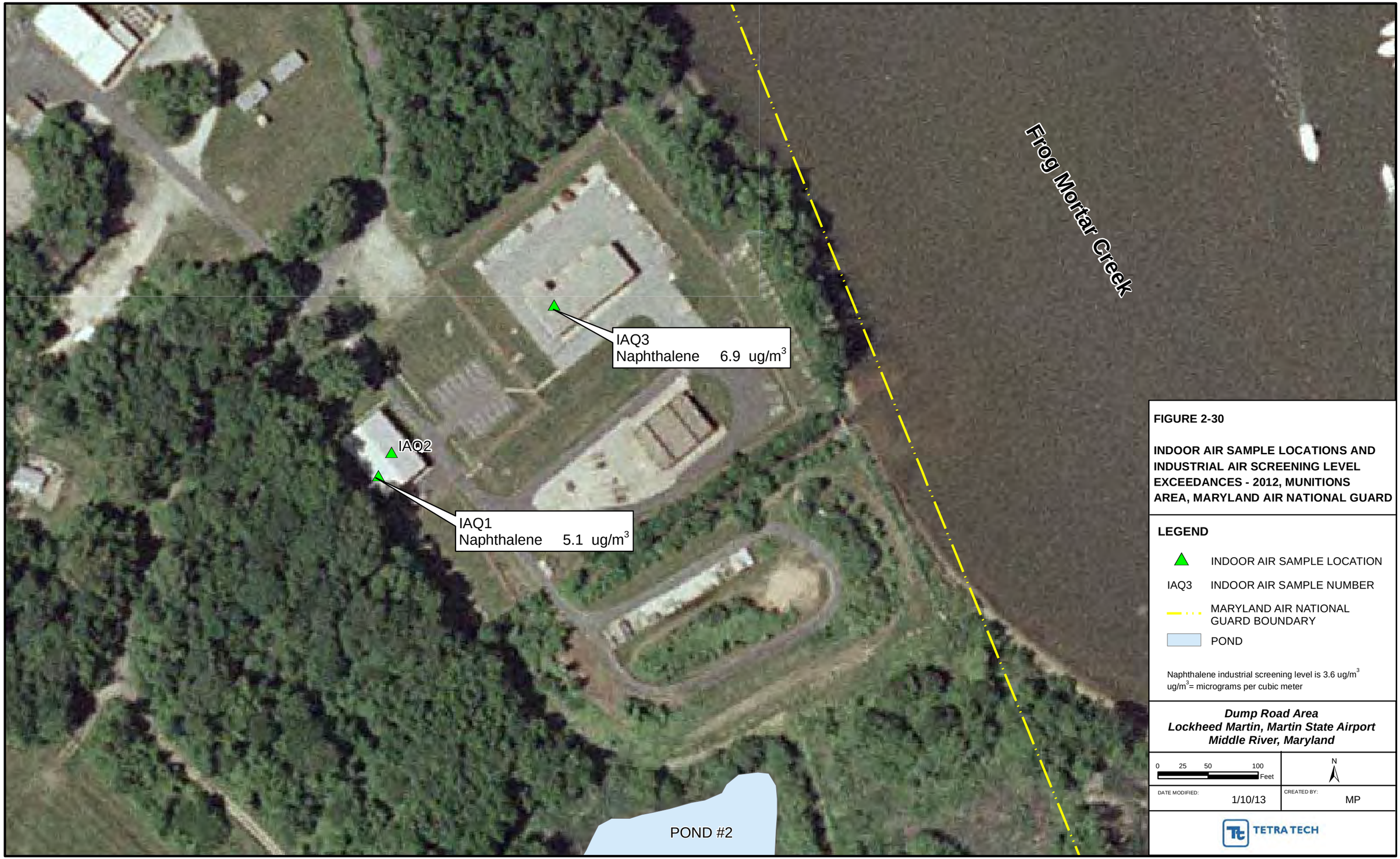

FIGURE 2-30

INDOOR AIR SAMPLE LOCATIONS AND INDUSTRIAL AIR SCREENING LEVEL EXCEEDANCES - 2012, MUNITIONS AREA, MARYLAND AIR NATIONAL GUARD

LEGEND

- INDOOR AIR SAMPLE LOCATION
- IAQ3 INDOOR AIR SAMPLE NUMBER
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Naphthalene industrial screening level is 3.6 ug/m^3

ug/m^3= micrograms per cubic meter

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 25 50 100 Feet

N

DATE MODIFIED: 1/10/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Munitions Area Mang Indoor Air Exceedances 3 23 12 revised 011013.mxd)
1/10/2013 -- 12:54:26 PM

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater monitoring well locs Shallow Aquifer VOCs April May 2012 Tags.mxd)
7/30/2012 -- 2:52:39 PM



FIGURE 2-31

TRICHLOROETHENE, CIS-1,2-DICHLOROETHENE AND VINYL CHLORIDE DETECTED IN GROUNDWATER-UPPER SURFICIAL AQUIFER, 2012

LEGEND

- GROUNDWATER MONITORING WELL: THE CONCENTRATION OF ONE OR MORE OF THE VOCs EXCEEDS A STANDARD
- GROUNDWATER MONITORING WELL: CONCENTRATIONS DO NOT EXCEED THE STANDARDS
- DEEP CONFINED AQUIFER WELL SAMPLED
- ABANDONED WELL
- WELL OR PIEZOMETER NOT SAMPLED FOR VOCS THIS ROUND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND
- J ESTIMATED VALUE BELOW REPORTING LIMIT
- CONCENTRATION IN RED EXCEEDS THE STANDARD

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)

TCE = Trichloroethene (standard = 5 ug/L)
c-12DCE = cis-1,2-Dichloroethene (standard = 70 ug/L)
VC = Vinyl chloride (standard = 2 ug/L)

For upper surficial aquifer or "S" wells sampled, the absence of a results tag or any of the three VOCs within a results tag indicate those VOCs/VOC were not detected.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 62.5 125 250 Feet

N

DATE MODIFIED: 7/30/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater monitoring well locs Intermediate Aquifer VOCs April May2012 Tags.mxd)
7/30/2012 -- 3:21:34 PM



FIGURE 2-32

TRICHLOROETHENE, CIS-1,2-DICHLOROETHENE AND VINYL CHLORIDE DETECTED IN GROUNDWATER-INTERMEDIATE SURFICIAL AQUIFER, 2012

LEGEND

- GROUNDWATER MONITORING WELL: THE CONCENTRATION OF ONE OR MORE OF THE VOCs EXCEEDS A STANDARD
- GROUNDWATER MONITORING WELL: CONCENTRATIONS DO NOT EXCEED THE STANDARDS
- DEEP CONFINED AQUIFER WELL SAMPLED
- ABANDONED WELL
- WELL OR PIEZOMETER NOT SAMPLED FOR VOCS THIS ROUND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

J ESTIMATED VALUE BELOW REPORTING LIMIT

CONCENTRATION IN RED EXCEEDS THE STANDARD

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)

TCE = Trichloroethene (standard = 5 ug/L)
c-12DCE = cis-1,2-Dichloroethene (standard = 70 ug/L)
VC = Vinyl chloride (standard = 2 ug/L)

For intermediate surficial aquifer or "I" wells sampled, the absence of a results tag or any of the three VOCs within a results tag indicate those VOCs/VOC were not detected.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 60 120 240 Feet

N

DATE MODIFIED: 7/30/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Groundwater monitoring well locs Lower Aquifer VOCs April May2012 Tags.mxd)



FIGURE 2-33

TRICHLOROETHENE, CIS-1,2-DICHLOROETHENE AND VINYL CHLORIDE DETECTED IN GROUNDWATER-LOWER SURFICIAL AND DEEP CONFINED AQUIFERS, 2012

LEGEND

- GROUNDWATER MONITORING WELL: THE CONCENTRATION OF ONE OR MORE OF THE VOCs EXCEEDS A STANDARD
- GROUNDWATER MONITORING WELL: CONCENTRATIONS DO NOT EXCEED THE STANDARDS
- DEEP CONFINED AQUIFER WELL SAMPLED
- ABANDONED WELL
- WELL OR PIEZOMETER NOT SAMPLED FOR VOCS THIS ROUND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

J ESTIMATED VALUE BELOW REPORTING LIMIT

CONCENTRATION IN RED EXCEEDS THE STANDARD

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)

TCE = Trichloroethene (standard = 5 ug/L)
c-12DCE = cis-1,2-Dichloroethene (standard = 70 ug/L)
VC = Vinyl chloride (standard = 2 ug/L)

For lower surficial aquifer or "D" wells sampled, the absence of a results tag or any of the three VOCs within a results tag indicate those VOCs/VOC were not detected.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 62.5 125 250 Feet

N

DATE MODIFIED: 7/30/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Benzene April_May 2012.mxd)
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FIGURE 2-34

BENZENE DETECTED IN GROUNDWATER-SURFICIAL AND DEEP CONFINED AQUIFERS, 2012

LEGEND

- GROUNDWATER MONITORING WELL: CONCENTRATION EXCEEDS THE STANDARD
- SURFICIAL AQUIFER GROUNDWATER MONITORING WELL: CONCENTRATION DOES NOT EXCEED THE STANDARD
- DEEP CONFINED AQUIFER WELL SAMPLED
- ABANDONED WELL
- WELL OR PIEZOMETER NOT SAMPLED FOR VOCS THIS ROUND
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

J ESTIMATED VALUE BELOW REPORTING LIMIT

CONCENTRATION IN RED EXCEEDS THE STANDARD

Well ID	
Analyte	Concentration In Micrograms Per Liter (ug/L)
Benzene	(standard = 5 ug/L)

For wells sampled, the absence of a results tag indicates the analyte was not detected.

(Not Sampled) - Indicates well not sampled if symbol is obscured for this well.

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 62.5 125 250 Feet

N

DATE MODIFIED: 7/31/12

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\MSA_Treatment Plant_TPandSB Locations_tag map revised 010813.mxd)
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FIGURE 2-35

TEST PIT AND SOIL BORING LOCATIONS AND ANALYTE EXCEEDANCES IN TEST PIT SOILS- JUNE 2012 PROPOSED TREATMENT PLANT DUMP ROAD AREA

TP-A70-11
Petroleum Hydrocarbons (mg/kg)
TPH-DRO 560

TP-A67-15
Semivolatile (ug/kg)
BAP EQUIVALENT-POS 1038.1
Volatiles (ug/kg)
VINYL CHLORIDE 150 J

TP-A73-8
Metals (mg/kg)
ARSENIC 5.6
CADMIUM 530
CHROMIUM 63
Semivolatile (ug/kg)
BAP EQUIVALENT-POS 794.31

TP-A74-7
Metals (mg/kg)
ARSENIC 19 J
BARIUM 13000
CADMIUM 12 J
CHROMIUM 35000
LEAD 6700
VANADIUM 66
ZINC 95000
Semivolatile (ug/kg)
BAP EQUIVALENT-POS 266.16
Volatiles (ug/kg)
CHLOROBENZENE 830000
Petroleum Hydrocarbons (mg/kg)
TPH-DRO 9800
TPH-GRO 12000

TP-A74-10
Metals (mg/kg)
ARSENIC 8.7
CADMIUM 4.2
CHROMIUM 610
VANADIUM 46
ZINC 2800
Semivolatile (ug/kg)
BAP EQUIVALENT-POS 13975
Petroleum Hydrocarbons (mg/kg)
TPH-DRO 470

TP-A75-10
Metals (mg/kg)
ANTIMONY 42 J
ARSENIC 14
CADMIUM 160 J
CHROMIUM 1600 J
COPPER 2900 J
LEAD 2300 J
NICKEL 190 J
SILVER 63 J
THALLIUM 1.8 J
VANADIUM 56 J
ZINC 12000
Semivolatile (ug/kg)
BAP EQUIVALENT-POS 1866.6
Petroleum Hydrocarbons (mg/kg)
TPH-DRO 350

TO GROUNDWATER TREATMENT SYSTEM BUILDING

TP-A68-16
Metals (mg/kg)
ARSENIC 4.6
CHROMIUM 130
LEAD 850
MERCURY 22
Volatiles (ug/kg)
VINYL CHLORIDE 1400 J
Petroleum Hydrocarbons (mg/kg)
TPH-DRO 5500
TPH-GRO 430

TP-A68-AN2
Metals (mg/kg)
CHROMIUM 63
VANADIUM 30
Semivolatile (ug/kg)
BAP EQUIVALENT-POS 214.49

TP-A69-10
Metals (mg/kg)
ANTIMONY 18 J
ARSENIC 5.2
CADMIUM 49 J
CHROMIUM 130 J
COPPER 2300 J
LEAD 600 J
SILVER 65 J
Semivolatile (ug/kg)
BAP EQUIVALENT-POS 487.06

TP-A72-5
Metals (mg/kg)
ARSENIC 3.7
Semivolatile (ug/kg)
BAP EQUIVALENT-POS 737
Petroleum Hydrocarbons (mg/kg)
TPH-DRO 9600

Pond #1
DMW3I
DMW3S
DMW3D
MW39S
DMW2A
DMW2B
RW1S
OW1S
DMW2S
RW1I
OW1I
SB-43
SB-37
SB-40
SB-38
A71
SB-44
SB-41
SB-39
SB-45
SB-42
DMW8S
DMW8I
DMW8D
DMW1A
DMW1B
MW5
DMW7S
DMW7D

Legend

- Geotechnical Soil Boring Locations, June 2012
- Groundwater Monitoring Well
- Abandoned Well
- Hydraulic Control Extraction Well
- Test Pit Locations, June 2012
- Maryland Air National Guard Boundary
- Wetland Boundary
- Extraction Well Pipelines
- Waste Boundary
- Approximate Fenceline
- Suspected Utility
- MSA Storm Sewer
- Ponds
- Facility Boundary
- Proposed Treatment Plant (1 acre)

June 2012 Test Pit Depth (Feet)
- 11 - 12
- 13 - 14
- 15 - 16

Sample ID
Analyte (unit) Result
= June 2012 test pit soil chemical results exceeding MDE Residential criteria and Eastern Maryland ATC (Arsenic, chromium, and vanadium only)

BAP Benzo(a)pyrene; BAP Equivalents-POS= calculation value based on positive detections only
mg/kg= milligrams per kilogram
ug/kg= micrograms per kilogram
ATC= Anticipated Typical Concentration
TPH= Total Petroleum Hydrocarbons
DRO= Diesel-Range Organics
GRO= Gasoline-Range Organics

Screening Levels:

Antimony	3.1	Chlorobenzene	160000
Arsenic	3.6	Vinyl Chloride	90
Barium	1600	BaPEq -POS	140
Cadmium	3.9	TPH-DRO	230
Chromium	28	TPH-GRO	230
Copper	310		
Lead	400		
Nickel	160		
Silver	39		
Thallium	0.55		
Vanadium	30		

Dump Road Area
Lockheed Martin, Martin State Airport
Middle River, Maryland

0 12.5 25 50 Feet

N

DATE MODIFIED: 1/8/13

CREATED BY: MP

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\Maps\Taxiway Tango 2012 Sample locations_Surveyed with exeedances.mxd)
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FIGURE 2-36

ANALYTES EXCEEDING INDUSTRIAL SCREENING STANDARDS IN TEST PIT SOIL SAMPLES, AUGUST 2012 DUMP ROAD TAXIWAY TANGO AREA

LEGEND

- TEST PIT (2012)
- GROUNDWATER MONITORING WELL
- ABANDONED WELL
- MARYLAND AIR NATIONAL GUARD BOUNDARY
- POND

Sample ID
Analyte Concentration Depth(ft)

Concentrations for BaPEq-POS, PCBs, and TPH-GRO are in units of ug/kg
Concentrations for TPH-DRO and Metals are in units of mg/kg
mg/kg= milligrams per kilogram
ug/kg= micrograms per kilogram
J = Estimated Value
L = Biased Low
BaPEq-POS = Benzo(a)pyrene Equivalents calculated based upon positive detections only
MDE = Maryland Department of the Environment
TPH= Total Petroleum Hydrocarbons
DRO= Diesel-Range Organics
GRO= Gasoline-Range Organics
PCBs= Polychlorinated Biphenyls

Screening Level in ug/kg:

	Industrial
BaPEq	2100
Total PCBs (as Total Aroclors)	1400
TPH-GRO	620000

MDE Screening Levels mg/kg:

	Industrial
TPH-DRO	620
Antimony	41
Arsenic	1.9
Cadmium	51
Chromium	310
Lead	1000
Nickel	2000
Vanadium	100

There are no exceedances of the Industrial standards for Volatile Organic Compounds

Lockheed Martin, Martin State Airport
Middle River, Maryland

0 50 100 200 Feet

N

DATE MODIFIED: 1/10/13

CREATED BY: MP

TETRA TECH

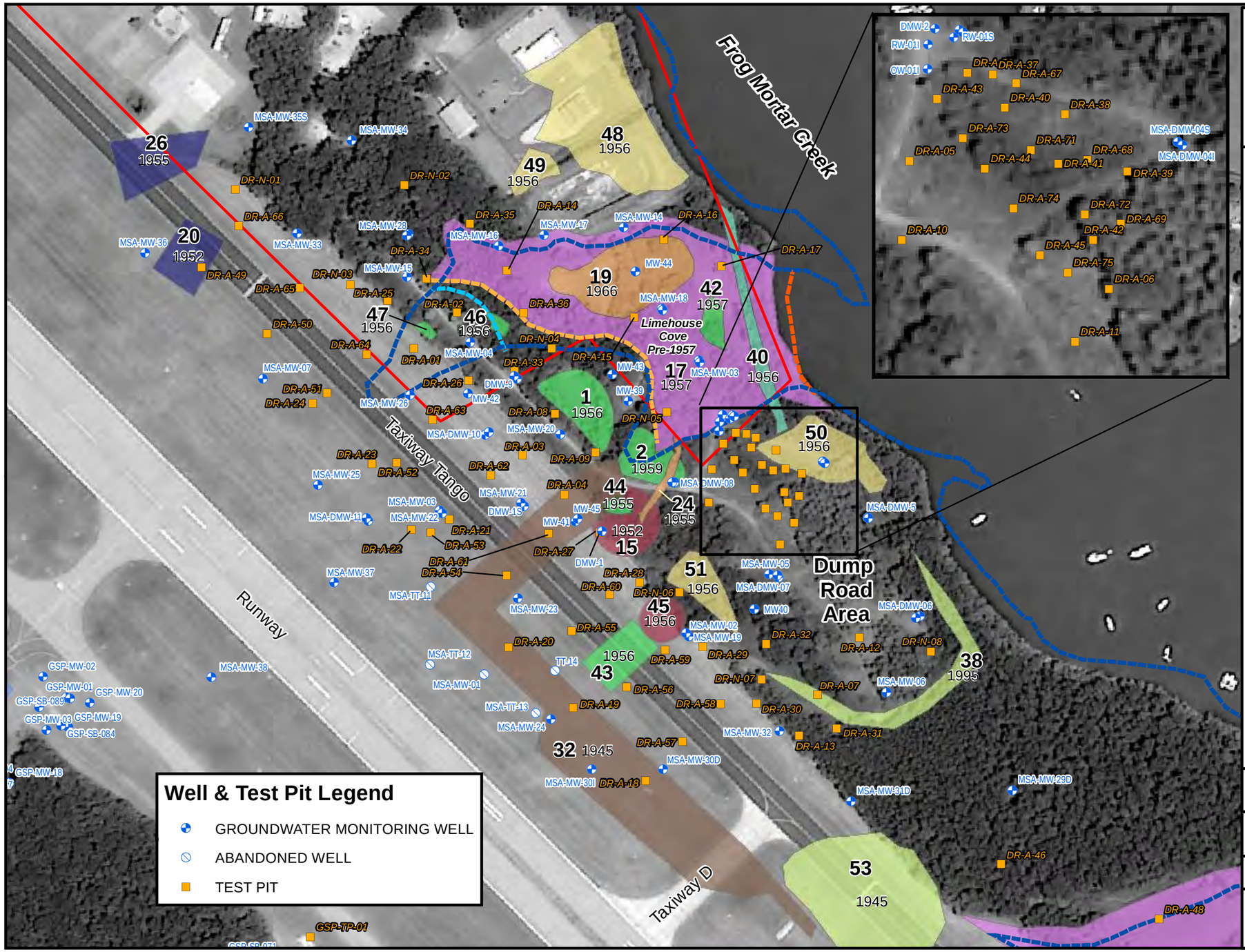

FIGURE 2-37

DUMP ROAD AREA
HISTORICAL FEATURES
MARTIN STATE AIRPORT

Legend

Historical Features

- Bermed Structure
- Bunker Ammo or Fuel
- Debris Piles
- Dike/Berm
- Dike/Berm Terraced
- Disturbed Earth
- Earthen Mound
- Fill
- Fuel Truck Bunker
- Open Burning
- Pond
- Pond/Pit

Site Area Boundary

- Maryland Air National Guard

Shorelines from Aerials

- 1959
- 1952
- 1945
- 1941
- 1938

NOTE: Locations of features 43 and 45 were taken from oblique aerials and are approximate in size and location.

Background Photo Source: USDA - July 27, 2011

Lockheed Martin, Martin State Airport
Middle River, Maryland

0 75 150 300 Feet

N

DATE MODIFIED: 1/17/13

CREATED BY: LR

TETRA TECH

Map Document: (K:\GProject\MartinStateAirport-LMC\MapDocs\MXD\historic Aerials\Historical Features DRA_wells.mxd)

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APPENDIX B—DIGGING PERMITS AND UTILITY CLEARANCE DOCUMENTATION

OFFICE of DESIGN and CONSTRUCTION

Division of Documents and Permits

RECEIPT of FIRE MARSHAL's CERTIFIED / STAMPED PROJECT PLANS

BP-12-025
MTN Dump Road Investigation

I /We: Tetra Tech on behalf of Lockheed Martin
(Company Name)

Received this Date: 8-24-12

Signature of Authorized Recipient: _____

Plans Certified by the MAA Fire Marshal's Office

Fire Marshal Stamp Date: May 30, 2012

Drawing List: **Copies: One**
All dated 5/15/2012 unless noted otherwise.

Permit Application
Figure 3-2 Proposed 2012 Sample Location Map Dump Road Area

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND AVIATION ADMINISTRATION

Division of Documents & Permits
P.O. Box 8766, BWI Airport
Maryland 21240-0766
Tel. 410-859-7796
Fax: 410-859-5440

APPLICATION FOR BUILDING PERMIT

GENERAL INFORMATION (To be completed by the applicant, please print)

Project Name: Dump Road Investigation	Airport: ☐ BWI X MTN
Project Location (Bldg./Terminal, Level, Holdroom, Room No. etc.): Mainly in wooded area between Taxiway Tango and Frog Mortar Creek with some sample locations in open grass area adjacent to Taxiway Tango.	Tenant Space No.:
Name of Tenant: On behalf of Lockheed Martin	Tel.: 301-233-8230
	E-mail: tony.apanavage@tetratech.com
Applicant/Contact Person: Tony Apanavage	Tel.: 301-528-3021
Representing: Tetra Tech on behalf of Lockheed Martin	Cell No.: 301-233-8230
Mailing Address: 20251 Century Blvd, Suite 200, Germantown, MD 20874	Fax: 301-528-3000
	E-mail: tony.apanavage@tetratech.com
Brief Description of Project: 20 CPT/DPT borings, 3 groundwater monitoring well couplets, 2 piezometers and 2 stilling wells will be installed for an environmental investigation.	**Check Appropriate Box:** MAA ☐ Funding Source: Existing Tenant X New Tenant ☐
Estimated Cost of Construction (**Required**): $200,000	
Name of Architect/Engineer: Tetra Tech	Tel.: 301-233-8230
Address: 20251 Century Blvd, Suite 200, Germantown, MD 20874	Fax: 302-528-3000
	E-mail: tony.apanavage@tetratech.com
Name of Contact: Tony Apanavage	
Name of Contractor: Boart Longyear	Tel.: 740-373-2190
	Cell/Emergency No.: 740-350-6611
Name of Contact: Larry Hunsberger/Jim McCombs	E-mail: Jim.Mccombs@boartlongyear.com
Maryland Contractor's License Number: MWD575	Expiration Date: 08/01/2013
* Attach Photocopy of Current MD Contractors License and Insurance Certificate.	

Maryland Aviation Administration
AIRPORT FIRE & RESCUE DEPARTMENT
FIRE PREVENTION DIVISION
☐ REJECTED WITH REQUIRED COMMENTS
☐ REVISE AS NOTED AND RESUBMIT FOR APPROVAL
☐ APPROVED WITH REQUIRED REVISIONS
☑ APPROVED AS SUBMITTED 5/30/12
BY: Curtis J. Cates AFM-II

Check Appropriate Box:

	Yes	No		Yes	No
Will a crane be used during construction?	☐	X	Will the work be done in a "Confined Space"?	☐	X
Will the work involve "Hot Work/Welding"?	☐	X	Will the work involve Trenching and Excavation?	☐	X
Will rooftop equipment be provided?	☐	X			

If the answer to any of these questions is Yes, additional permits or authorizations may be required. (See Permit Information & Guidelines for definitions and list of supplementary permits).

Applicant's Signature: _____ Date: 5/15/12

FOR OFFICE USE ONLY

	Yes	No		Yes	No
Complete Application Form	☐	☐	Safety Plan	☐	☐
Insurance Certification	☐	☐	Commercial Management Authorization	☐	☐
Copy of Contractor's License	☐	☐	Check List	☐	☐
Dwgs. Stamped by Licensed Architect/Engineer	☐	☐	CD	☐	☐

RECEIVED
MAY 23 2012
DIVISION OF DOCUMENTS & PERMITS

Permit Coordinator:	Date:
Date Received:	BP Number: BP 12 025
Date of Meeting:	
Date of Release:	

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND AVIATION ADMINISTRATION

APPLICATION FOR AIRPORT ZONING PERMIT

Approval of this application is not a substitute for any other permits or approvals required by the State or Local Jurisdiction.

Section I: ***Administrative Use Only***

Application No.: Date Received: Date Issued:

Airport: ☐ BWI ☐ Martin State ☐ Other

County: ☐ Anne Arundel ☐ Howard ☐ Baltimore ☐ Other

Approval Required: ☐ Noise Zone ☐ Obstructions

Section II: ***Applicant Information*** DUMP ROAD INVESTIGATION

1.) Application for (Check One)
(For the purposes of this form antenna, satellite dish, HVAC equipment, etc., should be considered "structures.")

☐ New Subdivision (Plat Approval) Subdivision No.: _____

☐ Structure Only ☐ Structure + Crane County Permit No.: _____

☒ Crane Only, for construction or installation that will not add height to an existing structure.

2.) Location: **Required:** ADC Map reference Martin State Airport

In addition, please complete at least one of the following types.

a) Tax Map, Grid _____, Parcel _____, Lot/block (if any) _____

b) Street Address 701 Wilson Point Road, Baltimore, MD 21220

c) N.S.E.W. side of _____, @ _____ ft. from intersection with _____

_____

For Structures

3.) Type of improvement: ☐ New Building ☐ Addition ☐ Alteration ☐ Repair ☒ Other

4.) Contract price or estimated value of improvement: $200,000

5.) Proposed Use(s):

a) Residential: ☐ One family ☐ Two Family ☐ Multi-family (No. units _____) ☐ Other

b) Non-residential:

☐ Hospital, Nursing Home, Institution

☐ School, Library, Church, Place of Assembly

☐ Hotel, Motel, Transient Lodging

☐ Outdoor Spectator Sports, Park, Playground

☐ Office, Store, Theater, Restaurant

☐ Agriculture, Industry: type: _____

☐ Tower, Tank: type: _____

☒ Other Environmental Investigation

_____

6.) Describe proposed structures: No permanent structures will be installed above grade for this project

_____

7.) Present use if different from proposed: _____

8.) Size of Structure: Height _____, Length _____, Width _____

A site plan showing the property boundaries and the location of any existing/proposed structures is required with application.

Elevations

*MLS=Mean Sea Level. All height restrictions in the vicinity of the airport use MSL as a reference point. If you do not know the elevation of your site, you can obtain this information at the County Office of Planning & Code Enforcement, Map Room.

9.) Ground elevation of site: 9 ft _____MSL*

10.) Maximum elevation: (Height of structure + elevation of site) 9 ft (all permanent work will be finished at or below grade) _____ MSL*

For Cranes

11.) Ground elevation at crane location: Drill rig mast 9 ft MSL@ Martin State Airport

12.) Height of crane(s) 35 ft

13.) Maximum elevation: (ground elevation + height of crane) 44 ft _____MSL*

The applicant hereby certified and agrees as follows: 1) that he/she is authorized to make this application; 2) that the information is correct; 3) that he/she will comply with all regulations that are applicable hereto; and 4) that he/she will perform no work on the subject property not specifically described in this application.

APPLICANT (Please Print)

Tetra Tech on behalf of Lockheed Martin

Address: 20251 Century Blvd, Suite 200

City	State	**Zipcode**
Germantown	MD	20874

PROPERTY OWNER (Please Print)

Martin State Airport

Address: 701 Wilson Point Road

City	State	Zipcode
Baltimore	MD	21220

Phone No.: 301-528-3021 office 301-233-8230 cell

Signature: _____ 9/15/12

Environmental consultant to

Connection to Property: Lockheed Martin

Section III *Approvals*

Obstruction: ☐ Approved for maximum height of _____ MSL ☐ Denied ☐ N/A

By: _____ Date: _____

Noise: ☐ Approved ☐ Denied ☐ N/A

By: _____ Date: _____

Approval of this application, if granted, will terminate if construction does not begin within one year of approved date.
Approval of this permit does not preclude disturbance of applicant or occupants from aircraft operations. Please return application to: Maryland Aviation Administration, Aircraft Noise & Abatement Office, P.O. Box 8766, BWI Airport, MD 21240. Please direct inquiries to 410-859-7070.

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND AVIATION ADMINISTRATION

UTILITY MODIFICATION/DIGGING AUTHORIZATION

Tenant Improvements Section
P.O. Box 8766, BWI Airport
Maryland 21240-0766
Tel.: 410-859-7796
Fax: 410-859-5440
E-mail address:
MAATIS@Bwiairport.com

GENERAL INFORMATION (To be completed by the applicant, please print)

Project Name: Geotechnical Investigations

Airport: ☐ BWI ☒ MTN

Project Location (Bldg./Terminal, Level, Holdroom, Room No. etc.):
Runup Road Area

Tenant Space No.:
NA

Name of Tenant:
Lockheed Martin

Tel.:
E-mail:

Applicant/Contact Person: Tony Apanavage

Tel.: 301-233-8230

Contractor: Lockheed Martin Tetra Tech
Mailing Address: 20251 Century Blvd. Ste 200
Germantown MD 20874

Cell:
Fax:
E-mail:

SITE

Scope: *(Define Scope and Boundaries of Proposed Work. Attach Drawings or Sketches as Required.)*
Reference drawing with Fire Marshal stamp date of 5/30/2012.

Utilities: List all Utilities as Identified in Contract Drawings

Contract Drawing Reference

SIGNS

Gray areas to be filled out by MAA Inspector

MAA Utilities*	Name: Tom Thompson	Signature: Thomas Thompson	Date: 7/13/12
MAA Design*	Name:	Signature:	Date:
MAA IT*	Name:	Signature:	Date:
FAA *	Name:	Signature:	Date:
BGE	Name:	Signature:	Date:
MISS UTILITY	Name:	Signature:	Date:

List additional utilities identified by MAA/PEPCO/FAA/BGE/Miss Utility/Others

NOTE

The following utilities have been test pitted, located, and identified (Digging authorization is subject to resubmission if utilities require re-marking and re-test pitting due to removal or disturbance of identifying markers)

Signature of Contractor:

Date:

*MAA/FAA sign off does not necessarily indicate accuracy of information but rather denotes that there are no known utilities other than those that may be listed. MAA/FAA and their employees and authorized agents are not liable for accurately identifying or locating any or all utilities. MAA/FAA sign-offs do not relieve the Contractor of responsibility for locating and protecting all utilities near the work. Contractor should use extreme caution for all underground work; cutting or damaging utilities could result in, among other things, disruption of service at the airport.

FOR OFFICE USE ONLY

Signature of Inspector

Date: 8/28/12

Name of Inspector: Print Tim C. Morgan

Date Application Received:

Date Application Approved/Denied:

BP/EP Number: BP-12-025

Final Report
Geophysical Survey
Utility/Structure Clearance for 22 Cone Penetrometer Test Locations
And 5 Monitoring Well Locations
Dump Road Survey Area
Middle River, MD
Enviroscan Reference Number 071226

Prepared For: Tetra Tech NUS, Inc.
Prepared By: Enviroscan, Inc.
October 9, 2012

1051 Columbia Avenue ● Lancaster, PA 17603 ● 717.396.8922 ● Fax 717.396.8746 ● email@enviroscan.com ● www.enviroscan.com

October 9, 2012

Mr. Tony Apanavage
Tetra Tech NUS, Inc.
20251 Century Boulevard
Suite 200
Germantown, MD 20874-7114

RE: Geophysical Survey
Utility/Structure Clearance for 22 Cone Penetrometer Test Locations
And 5 Monitoring Well Locations
Dump Road Survey Area
Middle River, MD
Enviroscan Reference Number 071226

Dear Mr. Apanavage,

Pursuant to our phone discussions in early July 2012, Enviroscan, Inc. has conducted a multi-technique geophysical survey at the above-referenced site. The field work was conducted on August 9 and 10, 2012. The purpose of the survey was to perform utility clearance for 22 proposed cone penetrometer test locations and 5 proposed monitoring well locations.

Methods

The utility survey was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology, including:

- a Radiodetection RD8000 Multi-Frequency pipe and cable tracer;
- a Radiodetection C.A.T. and Genny pipe and cable locator/tracer;
- a Fisher TW-6 electromagnetic (EM) pipe and cable locator/tracer;
- a GSSI SIR-2000 ground penetrating radar (GPR) system.

The principles of these techniques are detailed below.

RD8000

Utility tracing was conducted using a Radiodetection RD8000 digital cable and pipe tracer. The transmitter can be directly coupled to exposed portions of a metallic pipe, cable, or wire or indirectly (inductively) to a subsurface metallic utility of known location/orientation. The transmitter remains stationary and energizes the metallic utility at a frequency selected by the operator (512 Hz, 8 kHz, 33 kHz, or 65 kHz), which is received at the ground surface by the digital locator. When the transmitter is directly coupled to the metallic utility, the digital receiver can also calculate the depth of the utility to an accuracy of ±10% of the actual depth of the utility. Please note the close proximity to bends in the traced line or poor signal strength can result in erroneous depth estimations.

C.A.T. and Genny

The survey areas were also scanned with a Radiodetection C.A.T. and Genny pipe and cable locator and tracer. In Power mode, the C.A.T. detects the 50 to 60 Hertz (Hz) electromagnetic field generated by live power cables and other metallic utilities to which a live line is grounded. In Radio mode, the C.A.T. detects buried conductors (cables or metallic pipes) as they conduct and re-transmit commercial broadcast radio energy. In Genny mode, the C.A.T. detects signal generated by the Genny transmitter. The Genny transmitter can be coupled directly (conductively) to exposed portions of a metallic pipe, cable, or wire or inductively to a subsurface metallic utility with known location and orientation.

TW-6

In order to detect unknown utilities, Enviroscan employed a Fisher TW-6 pipe and cable locator and tracer. In pipe and cable search mode, the TW-6 is essentially a deep-sensing metal detector that detects any highly electrically conductive materials (e.g. metals) by creating an electromagnetic field with a transmitting coil. A receiving coil at a fixed separation from the transmitter measures the field strength. As the instrument is swept along the ground surface, subsurface metallic bodies distort the transmitted field. The change in field strength/orientation is sensed by the receiver, setting off an audible alarm and/or causing deflection of an analog meter. The TW-6 can nominally detect a 2-inch metal pipe to a depth of 8 feet and a 10-inch metal pipe to a depth of 14 feet.

In pipe and cable tracing mode, the TW-6 transmitter can be coupled directly (conductively) to exposed portions of a metallic pipe, cable, or wire or inductively to a subsurface metallic utility with known location and orientation. The transmitter remains stationary and energizes or excites the metallic utility to be traced with an 81.92-kilohertz signal that can be traced at the ground surface using the mobile TW-6 receiver wand or probe.

GPR

GPR systems produce cross-sectional images of subsurface features and layers by continuously emitting pulses of radar-frequency energy from a scanning antenna as it is towed along a survey profile. The radar pulses are reflected by interfaces between materials with differing dielectric properties. The reflections return to the antenna and are displayed on a video monitor as a continuous cross section in real time. Since the electrical properties of metal are distinctly different from soil and backfill materials, metallic pipes and other structures commonly produce dramatic and characteristic reflections. Fiberglass, plastic, concrete, and terra-cotta pipes and structures also produce recognizable, but less dramatic reflections. Scanning was performed using a GSSI SIR-2000 GPR controller with an internal hard drive and a color display, and both a high-frequency, high-resolution 500 megaHertz (MHz) antenna or transducer, and a lower frequency deep-penetrating 200 MHz transducer.

Results Summary

The utility clearance survey results are depicted in Figure 1. The mapped utilities located during the survey are overlain on a basemap of the site. Several proposed borings needed to be relocated due to nearby utilities. These new locations are noted in Table 1. Please note that the new coordinates of boring locations that were moved during geoprobing (by others) to avoid marked utilities or obstructions, do not appear on Table 1.

Limitations

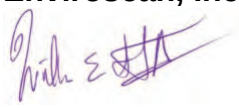
The above-referenced geophysical survey was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology. Enviroscan does not accept responsibility for survey limitations due to inherent technological limitations or unforeseen site-specific conditions. However, we make every effort to identify and notify the client of such limitations or conditions. In particular, please note the following specific limitations and recommendations:

- Enviroscan's field markings should be considered accurate to within approximately +/-18 inches for single lines. In contrast, since electromagnetic tracing of duct banks provides only a centerline, the bank itself may extend for 2 to 3 feet beyond the marked trace.

- The completion of this survey does not relieve any party of applicable legal obligations to notify the appropriate One-Call center prior to digging or drilling.

As always, we appreciate this opportunity to have worked with you. If you have any questions, please do not hesitate to contact me.

Sincerely,
Enviroscan, Inc.



William E. Steinhart III, M.Sc., P.G.
Principal Geophysicist

Technical Review By:
Enviroscan, Inc.



Felicia Kegel Bechtel, M.Sc., P.G.
President

enc.: Figure 1 Utility Survey Results Dump Road Area
Table 1 – Utility Clearance Results

Electrical Line
Telcom Line
Storm Line
Domestic Water Line
Fire Protection Line
Gas Line
Unknown Utility
Soil Boring
MIP
Monitoring Well
Soil Gas
CPT

CONFIRMED
ND LINE

MW_44
MW42S
CPT_20
CPT_19
CPT_17
MW41S
MW_43
CPT_21
CPT_16
CPT_22
CPT_06
CPT_03
CPT_02
CPT_04
CPT_01
CPT_05
CPT_09
CPT_08
CPT_12
CPT_11
CPT_07
CPT_10
CPT_15
CPT_13
MW40S
CPT_14

0 100 200
Scale in Feet

The information depicted on this drawing represents survey results on the date surveyed and can only be considered to be indicative of the general conditions existing on that survey date.

Coordinates in Maryland State Plane (feet) NAD-83 Datum.

Prepared by:

Enviroscan, Inc.
1051 Columbia Avenue
Lancaster, PA
(717) 396-8922

Utility Survey Results Dump Road Area

Dump Road Area
Utility Survey

Martin State Airport
Middle River, MD

Figure 1

Project Number	Survey Date	Drawn by:
071226	08/22/12	WES
Original Scale	Revision/Issue	Approved by:
1" = 100'	10/09/2012	FKB

Table 1
Utility Clearance Results
Dump Road Area

Boring ID	Final Easting	Final Northing	Boring Moved due to Utility or Obstruction
CPT_01	1478855.345	604362.366	
CPT_02	1478851.472	604464.172	x
CPT_03	1479001.512	604502.558	x
CPT_04	1479018.602	604373.314	
CPT_05	1479211.18	604310.653	
CPT_06	1479217.757	604542.906	
CPT_07	1479436.854	604342.494	
CPT_08	1479430.575	604422.6	
CPT_09	1479572.223	604458.377	
CPT_10	1479544.247	604336.848	
CPT_11	1479830.097	604382.056	
CPT_12	1479939.771	604397.348	
CPT_13	1480013.465	604278.003	
CPT_14	1479930.704	604147.761	x
CPT_15	1479756.306	604277.887	
CPT_16	1479172.923	604726.305	
CPT_17	1479221.476	604804.11	
CPT_18	1478595.881	605174.217	
CPT_19	1479347.715	604810.728	
CPT_20	1479471.006	604875.701	
CPT_21	1479550.508	604781.873	
CPT_22	1479589.071	604622.302	x
MW_43	1479521.373	604776.074	x
MW_44	1479571.018	605023.476	
MW40S	1479855.438	604248.97	
MW41S	1479549.057	604797.17	
MW42S	1479421.622	604897.051	

APPENDIX C—CONE-PENETROMETER TESTING LOGS

PRESENTATION OF IN SITU TESTING PROGRAM RESULTS

Dump Road
12-972
Warfield Airforce Base - Middle River, MD
August 27th through September 9th, 2012

Prepared for:

TetraTech

Prepared by:

ConeTec Inc.
Charles City, Virginia

September 14, 2012

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FIGURE 2 Typical Dissipation Tests

APPENDICES

APPENDIX A CPT Plots
APPENDIX B CPT Interpretation Methods

1.0 INTRODUCTION

This report presents the results of a piezocone penetrometer testing (CPTu) program performed for the Dump Road project on Warfield Airforce Base in Middle River, MD. The work was performed under subcontract to TetraTech. The *in situ* testing program took place during the period of August 27th through September 9th, 2012.

Twenty-seven piezocone penetration test (CPTu) soundings were conducted at select locations. The sounding locations were selected and numbered under the direction of the client's representative. This report presents the findings of our exploration.

2.0 FIELD EQUIPMENT AND PROCEDURES

2.1 CONE PENETRATION TESTING

The cone penetrometer tests were carried out using an integrated electronic seismic piezocone. The piezocone used was a compression model cone penetrometer with a 15 cm^2 tip and a 225 cm^2 friction sleeve. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.80. The piezocone dimensions and the operating procedure were in accordance with ASTM Standard D-5778-07. A diagram of the cone penetrometer used for this project is shown as Figure 1.

Pore pressure filter elements, made of porous plastic, were saturated under a vacuum using silicone oil as the saturating fluid. The pore pressure element was six millimeters thick and was located immediately behind the tip (the U_2 location) for all soundings.

The cone soundings were advanced using a 20-ton track mounted CPT rig. The following data were recorded every five centimeters (approximately every 2 inches) as the cone was advanced into the ground:

- Tip Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (U)

Before each sounding a complete set of analog baseline readings are taken with an integated multi-meter and compared with the digitized value on the computer screen. This provides a check on the analog to digital conversion board.

Evaluation of the analog baselines is key to consistent readings. The baseline data should be stable and should not wander excessively during the course of a sounding. Baseline data can be used to apply corrections to the cone data where necessary. For this project, the baseline shift from sounding to sounding was small, typically less than 0.1% of full scale, and no data corrections were applied.

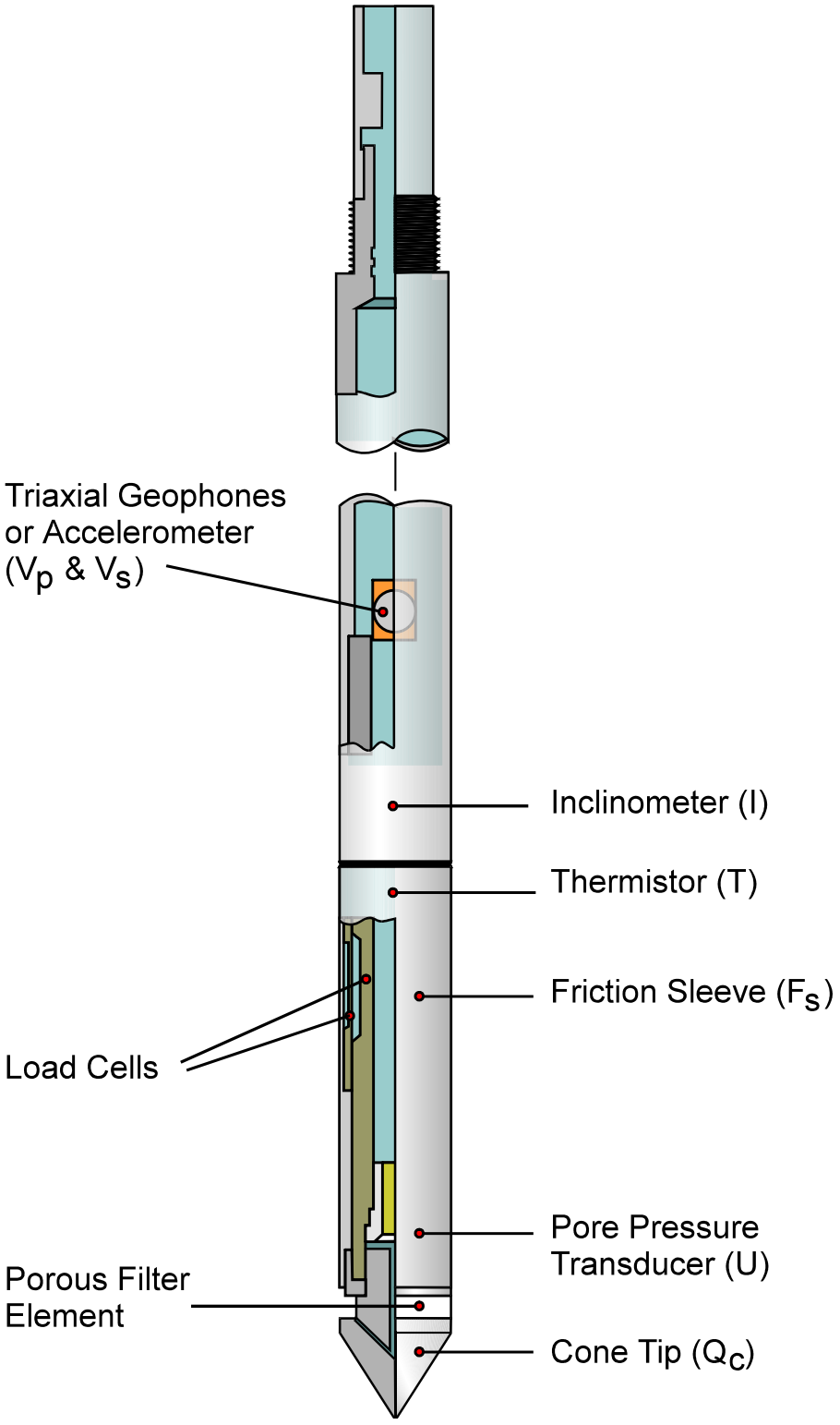


FIGURE 1 - TYPICAL CONE PENETROMETER

2.2 PORE PRESSURE DISSIPATION TESTS

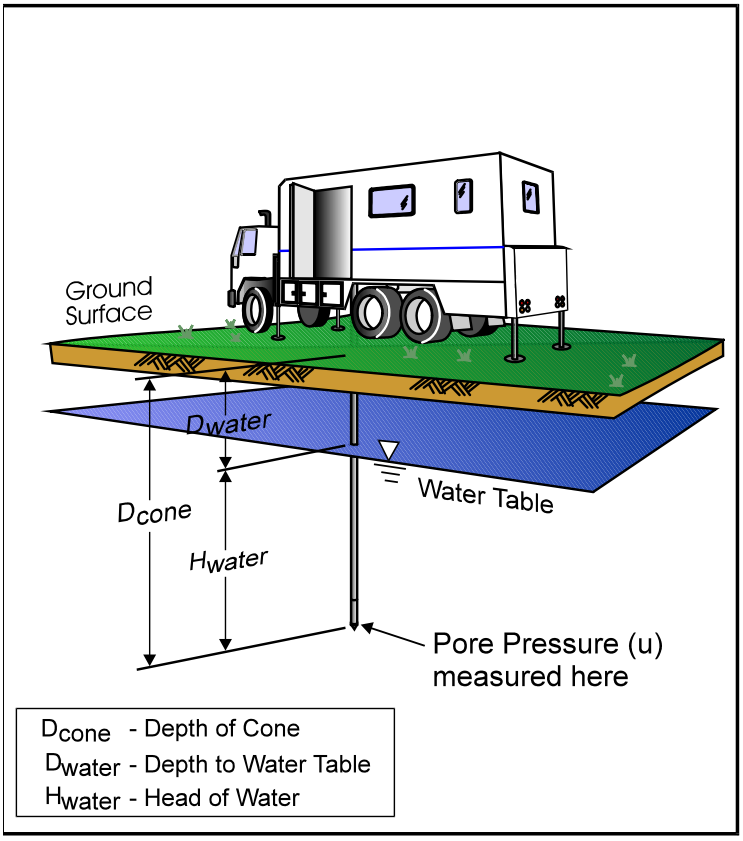
When cone penetration is stopped, the piezocone essentially becomes a piezometer. While stopped, pore water pressures are automatically recorded at five-second intervals and the readings are stored in a dissipation file. Dissipation data can then be plotted onto a dissipation curve consisting of pore water pressure (U) verses time (t). The shapes of dissipation curves are very useful in evaluating soil type, drainage and in situ static water level.

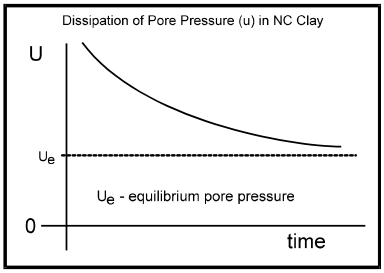
A flat curve that stabilizes quickly (i.e. less than 30 seconds) is typical of a freely draining sand. In this case, the final measured pore water pressure is the static in situ water pressure.

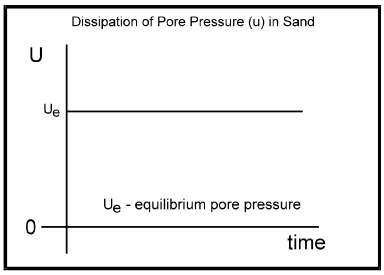
Soils that generate excess dynamic pore water pressure during penetration will dissipate this excess pressure when penetration stops. The shape of the dissipation curve and the time of dissipation can be used to estimate c_h, the coefficient of consolidation that can in turn be used to calculate K_h, the horizontal permeability.

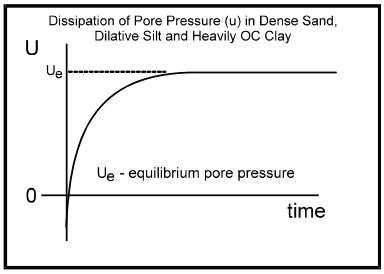
Figure 2 shows some idealized shapes of various pore water pressure dissipation curves. The reader is referred to Robertson et. al., 1992 to reference dissipation test data analytical techniques.

Estimation of Ground Water Table from CPT Dissipation Tests









Water Table Calculation

$$D_{water} = D_{cone} - H_{water}$$

where $H_{water} = U_e$ (depth units)

Useful Conversion Factors: 1psi = 0.704m = 2.31 feet (water)
1tsf = 0.958 bar = 13.9 psi
1m = 3.28 feet

FIGURE 2 - TYPICAL DISSIPATION TESTS

3.0 CONE PENETRATION TEST DATA AND INTERPRETATION

3.1 ANALYSIS OF PIEZOCONE DATA - GENERAL

A total of twenty-seven CPTu locations were completed to depths up to approximately 62 ft below existing grade. The soundings were halted when the termination depth was reached or refusal conditions were met.

The interpretation of cone data is based on the relationship between cone bearing, qc, sleeve friction, fs, and penetration pore water pressure, U. The friction ratio, Rf , (sleeve friction divided by cone bearing) is a calculated parameter which is used to infer soil behavior type. Generally, saturated cohesive soils have low tip resistance, high friction ratios and generate large excess pore water pressures. Cohesionless soils have higher tip resistances, lower friction ratios and do not generate significant excess pore water pressure.

The interpretation of soils encountered on this project was carried out using established correlations presented in Appendix B. It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and U. Occasionally soils will fall within different soil categories on the classification charts. In these situations, experience and judgment and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type. Computer tabulations of the interpreted soil types along with certain other geotechnical parameters for each cone hole is presented in the .xls files in the attached data.

Each of the parameters measured in the sounding is discussed briefly below. A detailed explanation of CPTu testing and interpretation of the results can be found in Robertson et. al. 1992.

TIP RESISTANCE (q_c): The resistance to penetration, measured at the cone tip, provides an accurate profile of subsurface strata. The recorded tip resistance is a composite of the penetration resistance of the soils located five to ten cone diameters (8 to 18 inches) in front of and behind the tip. The actual resistance "sensed" by the tip depends on the soil properties and on the relative stiffness of the layers encountered. Tip resistance is often corrected for pore pressure effects when testing in soft saturated cohesive soils.

For this project the correction was made and the tip resistance shown, q_t is the corrected tip resistance.

The correction used is: $q_t = q_c + (1-a)U$

Where: q_t = corrected tip resistance
q_c = measured tip resistance
a = net area ratio for cone (0.80 for this project)
U = dynamic pore water pressure measured behind tip

SLEEVE FRICTION (f_s) The resistance recorded on the friction sleeve, is a measure of the remolded strength of the soil. Values of sleeve friction in very soft soils (such as peat) may fluctuate due to the measured force being small relative to the capacity of the measuring load cell.

FRICTION RATIO (R_f) The ratio of sleeve friction to tip resistance expressed as a percentage, is an indicator of soil type. Cohesive soils generally have friction ratios that are greater than two, while sands and non-plastic silts have friction ratios that are lower than two.

PORE PRESSURE (U*)* Dynamic pore water pressure is measured during penetration. Dynamic pore water pressure data can be found in the attached .xls files. Static pore water pressure is measured when cone penetration is stopped. The measured dynamic pore water pressure changes with the location of the porous filter and negative readings are possible when the filter is located behind the tip.

It is important to note that the CPT classifies soil by physical behavior, not by grain size; therefore, the CPT classification should be verified against samples obtained from a conventional drilling program. While the CPT soil classification may not always be accurate in terms of the actual label it applies to a particular soil, it is very accurate in grouping soils with similar mechanical properties.

Table 1 in Appendix A presents a summary of the CPT soundings, including sounding depth and estimated depth of ground water table.

3.2 CONE PLOTS

The data from the soundings was plotted using the computer program ScreenZW. The CPT plots are included in Appendix A. ScreenZW was developed by ConeTec Inc. and it incorporates soil behavior type (SBT) classification as part of the plot. The soil classification is based on the classification chart reproduced chart in Appendix B, Figure 2.

3.3 PORE PRESSURE DISSIPATION TEST RESULTS

When conducting CPT investigations, pore water pressure dissipations are automatically recorded during pauses in penetration. The pore water pressure data is recorded at five second intervals. The water table depths used in the data interpretation are derived from the pore water pressure dissipation tests below the water table. All ground water table depths should be considered approximate.

3.4 CPT DATA PROCESSING

The electronic data files were processed using the program ScreenZW. ScreenZW is a program developed by ConeTec to calculate common engineering parameters from CPT data. The processed data is included in the attached files. The calculations used are summarized in the table in Appendix B. Each calculation is derived according to the referenced article.

For this project, the piezometric surface depths used in the data interpretation calculations are given in Table 1 as well as the heading of each .xls file. It should be noted that a hydrostatically increasing pore pressure with depth was used in the empirical correlations. Based on the results of the pore pressure dissipation testing, there is evidence the in situ water pressures do not increase hydrostatically with depth. The values derived from the empirical correlations should be considered a first order approximation and a more rigorous analysis that considers the results of the pore pressure dissipation may be required.

5.0 REFERENCES

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Mayne, P.W., Christopher, B. R., DeJong, J., (2001), Manual on Subsurface Exploration, National Highway Institute Publication # FHWA NHI-01-031, Washington D.C.

Robertson, P.K., 1989, "Soil Classification using the Cone Penetration Test", Canadian Geotechnical Journal, vol. 27, pages 151-158.

Robertson, P.K., Sully, J., Woeller, D.G., Lunne, T., Powell, J.M., and Gillespie, D.J., 1992, "Estimating Coefficient of Consolidation from Piezocone Tests", Canadian Geotechnical Journal, vol. 29, pages 539-550.

APPENDIX A

Dump Road - Warfield Airforce Base, Middle River, MD

August 27th through September 9th, 2012
12-972

Table 1: Sounding Information Table

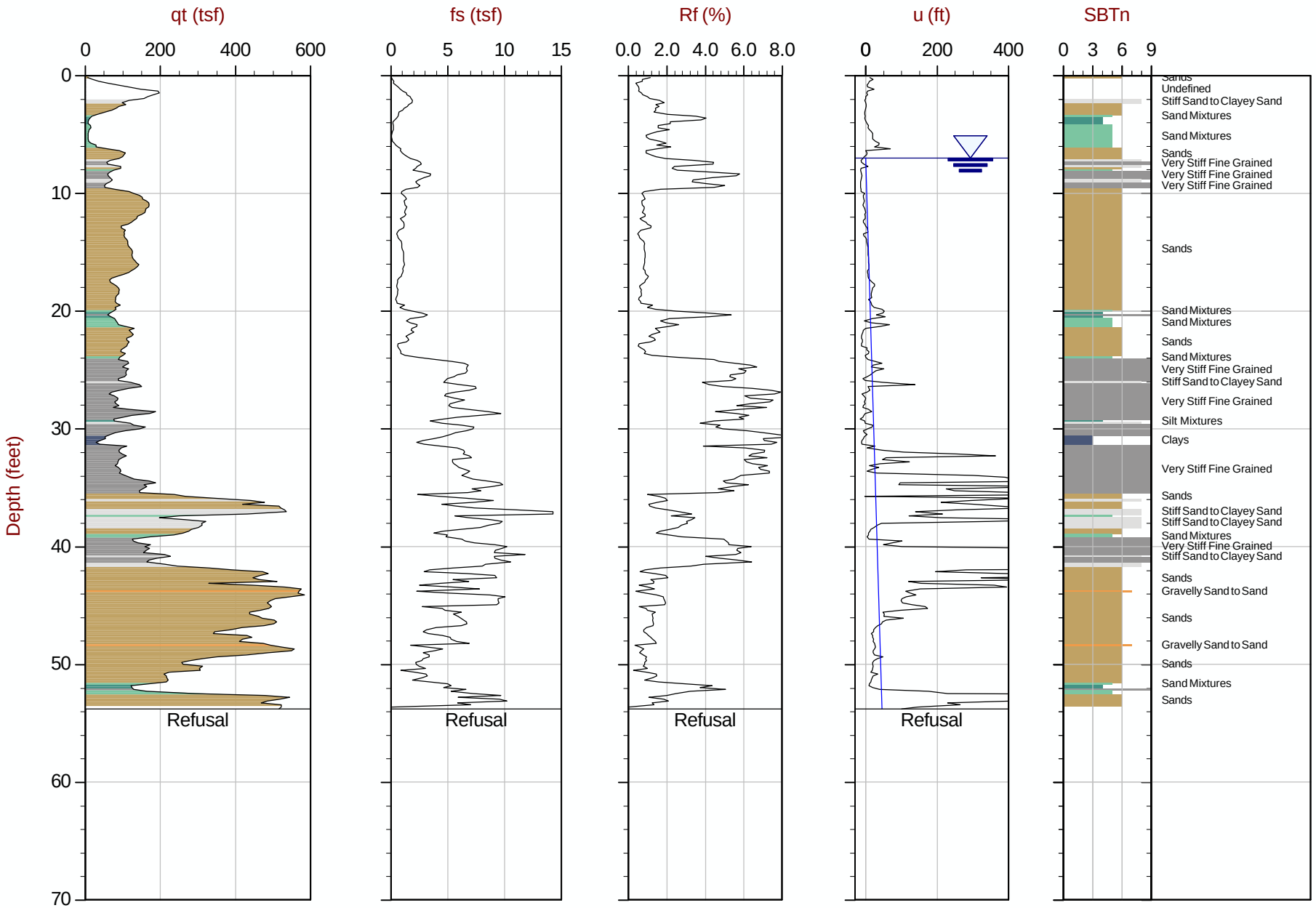
Test Type	Filename	Sounding Number	Depth (ft)	Estimated GWT (ft)	Comments
CPTu	972CP01	DR-CPT-01	53.8	7	Refusal
CPTu	972CP02	DR-CPT-02	0.3	Not encountered	Refusal
CPTu	972CP02A	DR-CPT-02a	32.2	6	Refusal
CPTu	972CP03	DR-CPT-03	1.3	Not encountered	Refusal
CPTu	972CP03A	DR-CPT-03a	33.5	9	Refusal
CPTu	972CP04	DR-CPT-04	54.5	9	Refusal
CPTu	972CP05	DR-CPT-05	62.3	9	
CPTu	972CP06	DR-CPT-06	42.5	9	Refusal
CPTu	972CP07	DR-CPT-07	3.6	Not encountered	Refusal
CPTu	972CP07A	DR-CPT-07a	44.0	11	Refusal
CPTu	972CP08	DR-CPT-08	51.7	11	Refusal
CPTu	972CP09	DR-CPT-09	54.8	11	Refusal
CPTu	972CP10	DR-CPT-10	46.1	11	Refusal
CPTu	972CP11	DR-CPT-11	50.5	18	Refusal
CPTu	972CP12	DR-CPT-12	37.7	15	Refusal
CPTu	972CP13	DR-CPT-13	43.5	11	Refusal
CPTu	972CP14	DR-CPT-14	38.5	14	Refusal
CPTu	972CP15	DR-CPT-15	31.7	12	Refusal
CPTu	972CP15A	DR-CPT-15a	32.3	13	Refusal
CPTu	972CP16	DR-CPT-16	47.7	7	Refusal
CPTu	972CP17	DR-CPT-17	60.2	6	
CPTu	972CP18	DR-CPT-18	60.0	9	
CPTu	972CP19	DR-CPT-19	47.2	8	Refusal
CPTu	972CP20	DR-CPT-20	24.3	5	Refusal
CPTu	972CP20A	DR-CPT-20a	37.6	9	Refusal
CPTu	972CP21	DR-CPT-21	50.0	8	Refusal
CPTu	972CP22	DR-CPT-22	38.7	9	Refusal

CONETEC

TertaTech

Job No: 12-972
Date: 09:09:12 22:55
Site: Dump Road

Sounding: DR-CPT-01
Cone: 167:T1500F15U500



Max Depth: 16.400 m / 53.81 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP01.COR
Unit Wt: SBT Chart Soil Zones

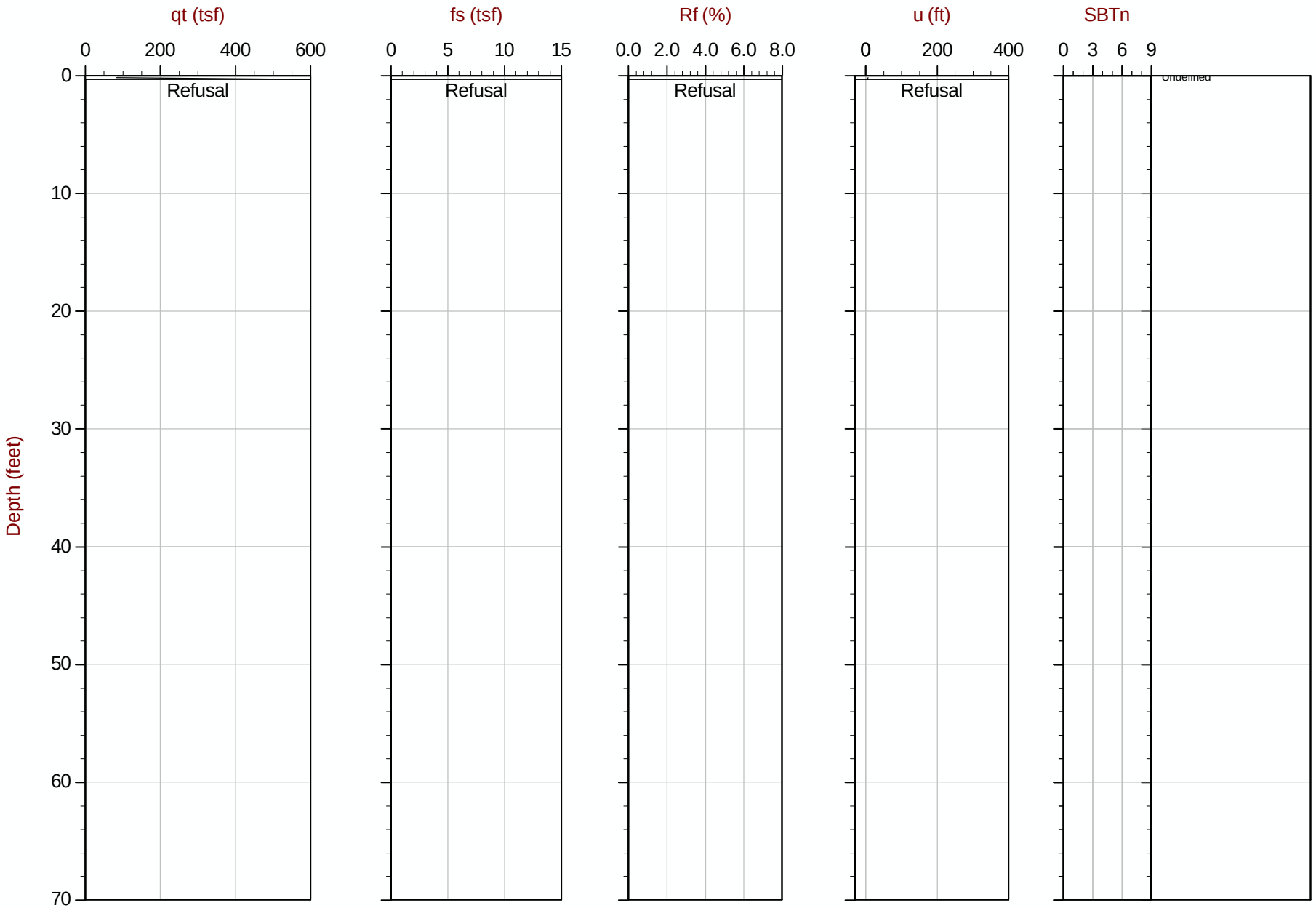
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 09:09:12 23:53
Site: Dump Road

Sounding: DR-CPT-02
Cone: 167:T1500F15U500



Max Depth: 0.100 m / 0.33 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP02.COR
Unit Wt: SBT Chart Soil Zones

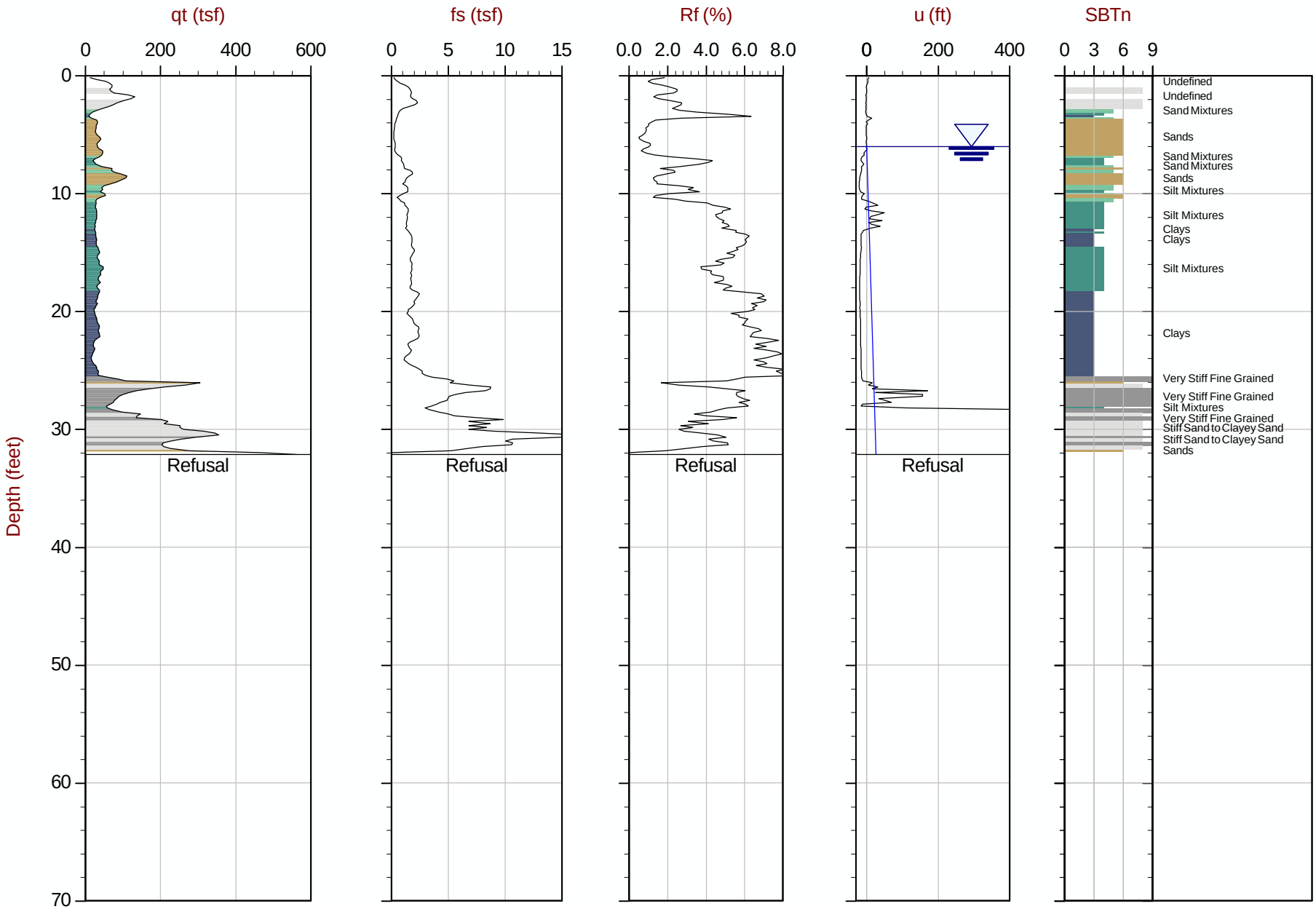
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 09:09:12 23:54
Site: Dump Road

Sounding: DR-CPT-02a
Cone: 167:T1500F15U500



Max Depth: 9.800 m / 32.15 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP02A.COR
Unit Wt: SBT Chart Soil Zones

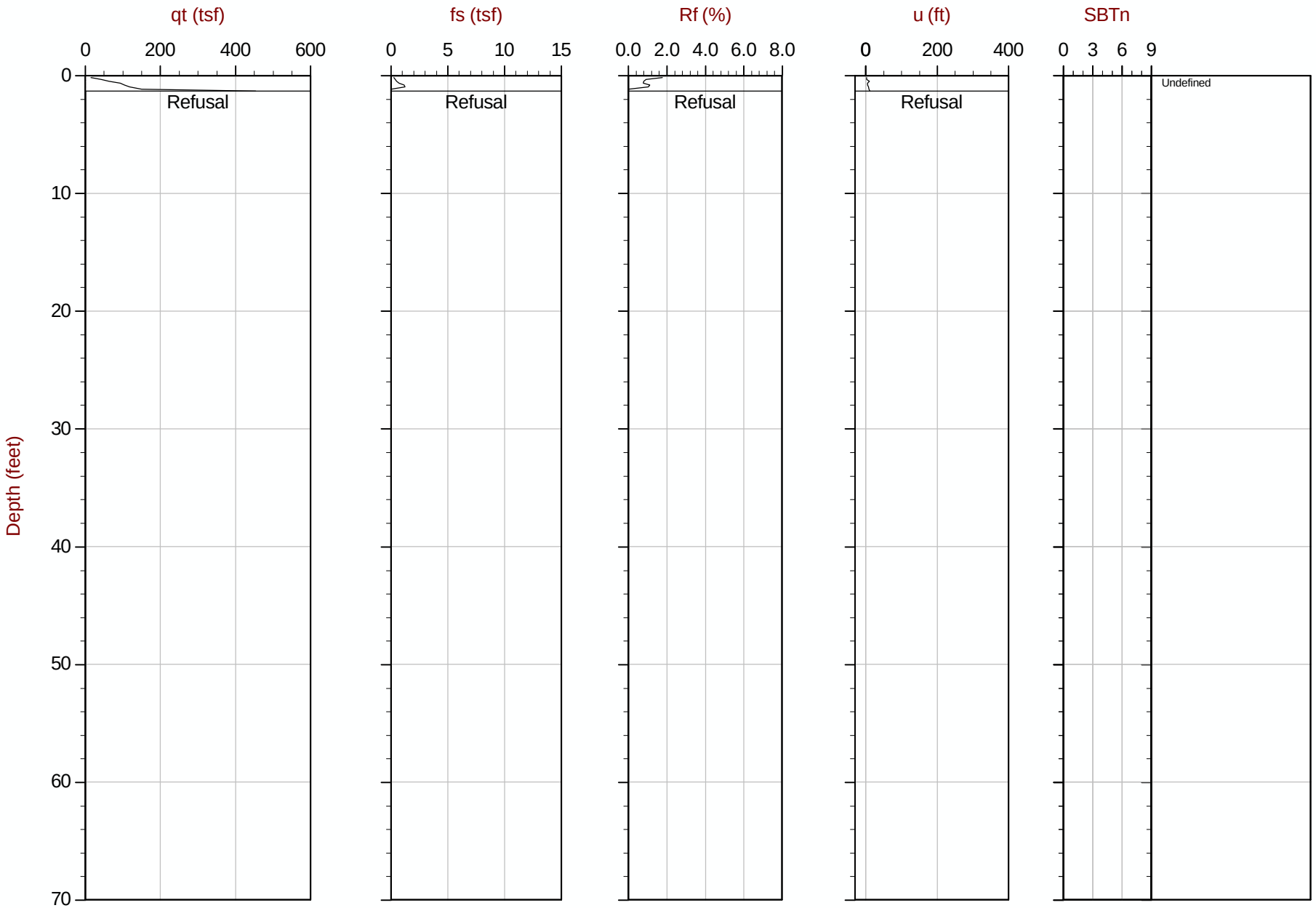
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:31:12 07:39
Site: Dump Road

Sounding: DR-CPT-03
Cone: 167:T1500F15U500



Max Depth: 0.400 m / 1.31 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP03.COR
Unit Wt: SBT Chart Soil Zones

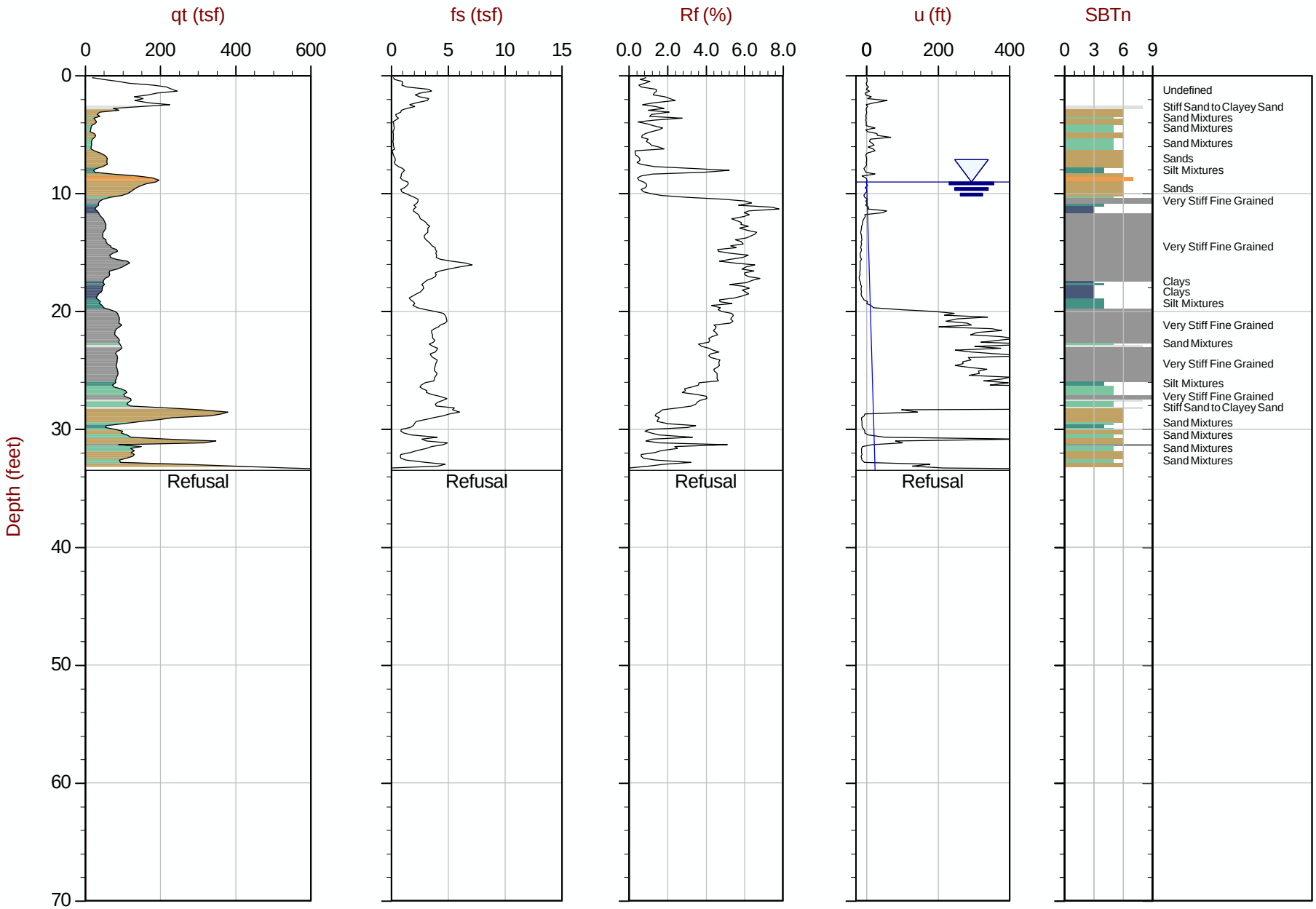
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:31:12 07:40
Site: Dump Road

Sounding: DR-CPT-03a
Cone: 167:T1500F15U500



Max Depth: 10.200 m / 33.46 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP03A.COR
Unit Wt: SBT Chart Soil Zones

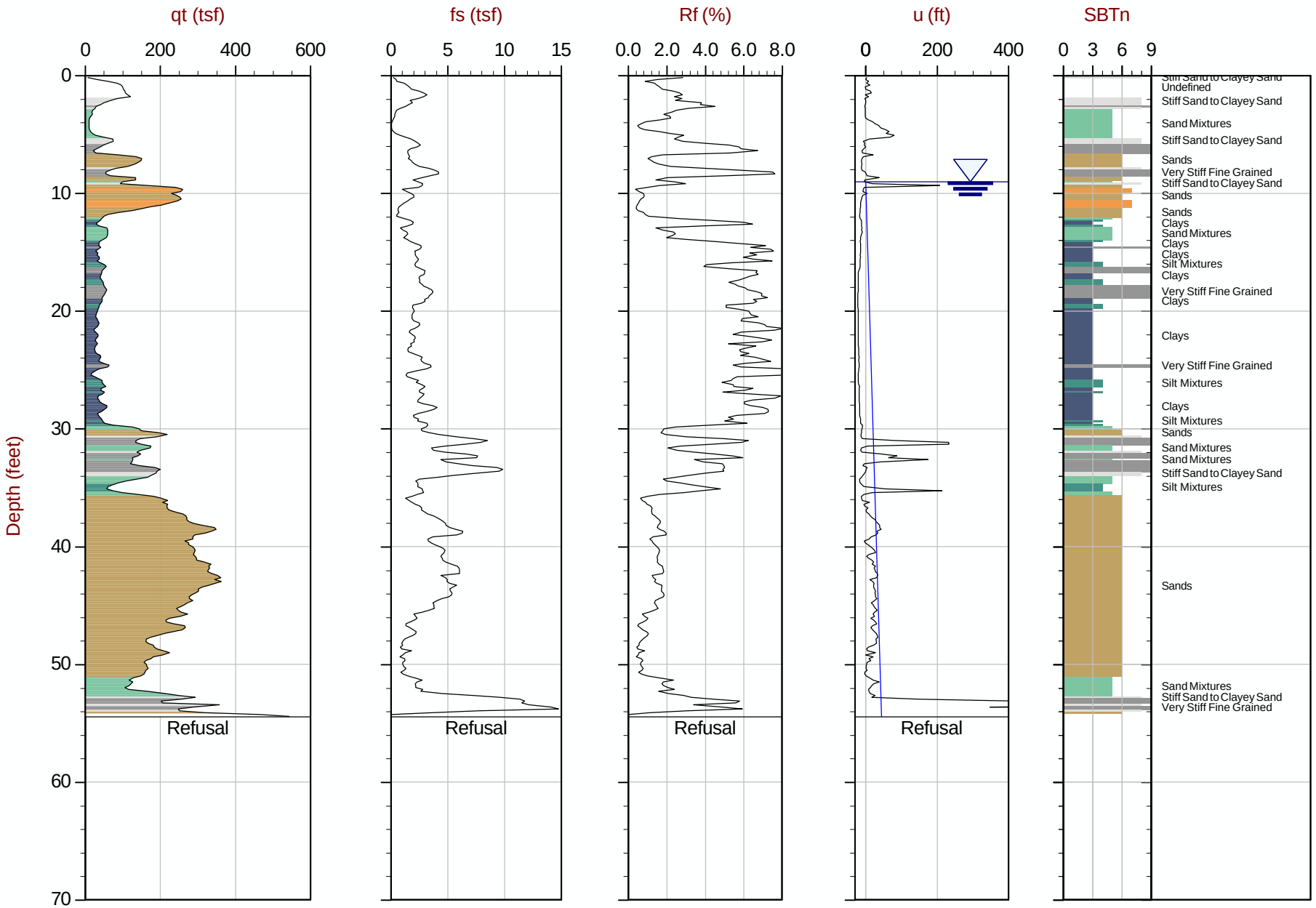
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 09:09:12 00:43
Site: Dump Road

Sounding: DR-CPT-04
Cone: 167:T1500F15U500



Max Depth: 16.600 m / 54.46 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP04.COR
Unit Wt: SBT Chart Soil Zones

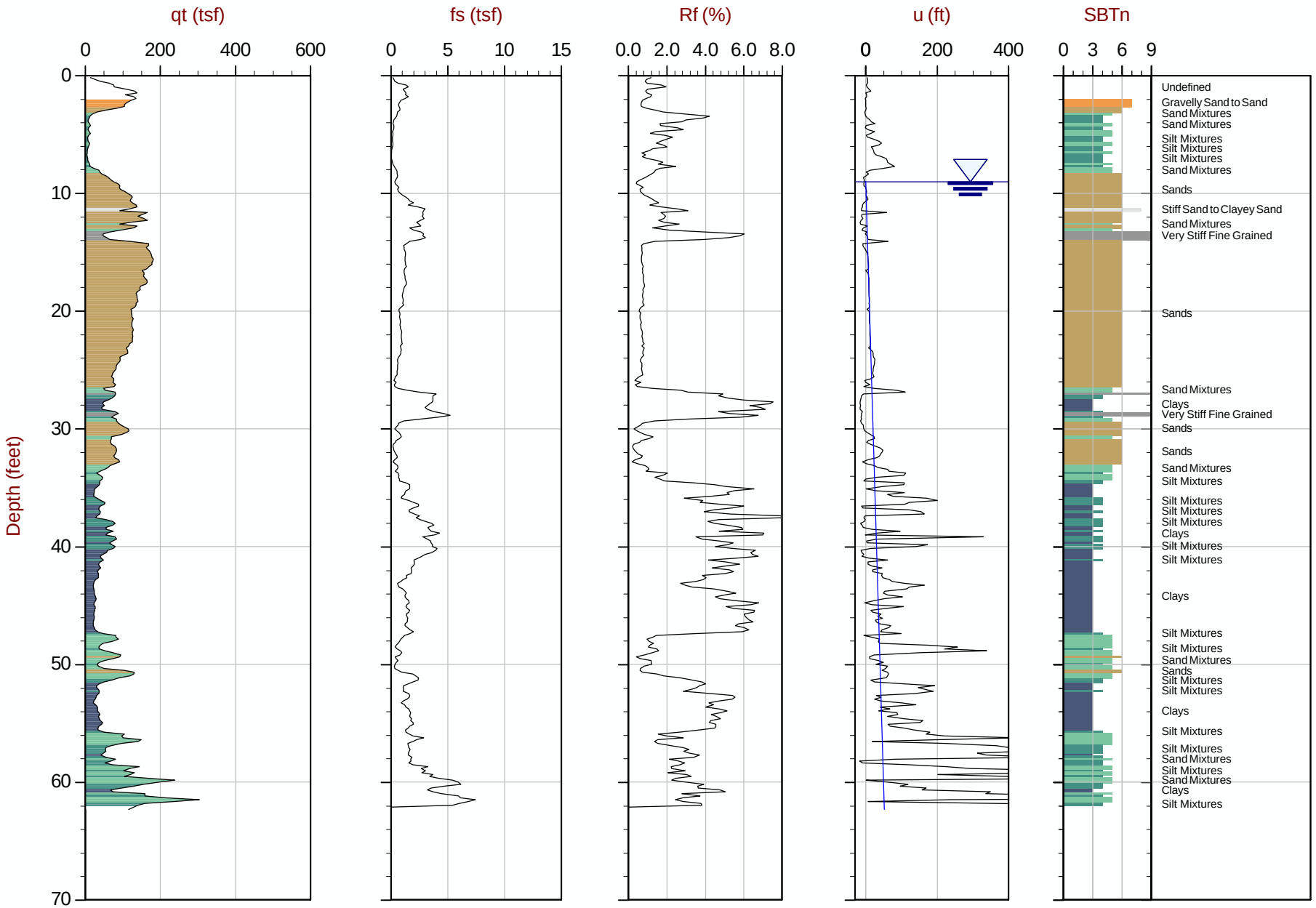
SBT: Lunne, Robertson and Powell, 1997
Page No: 1 of 1

CONETEC

TertaTech

Job No: 12-972
Date: 08:31:12 08:28
Site: Dump Road

Sounding: DR-CPT-05
Cone: 167:T1500F15U500



Max Depth: 19.000 m / 62.34 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP05.COR
Unit Wt: SBT Chart Soil Zones

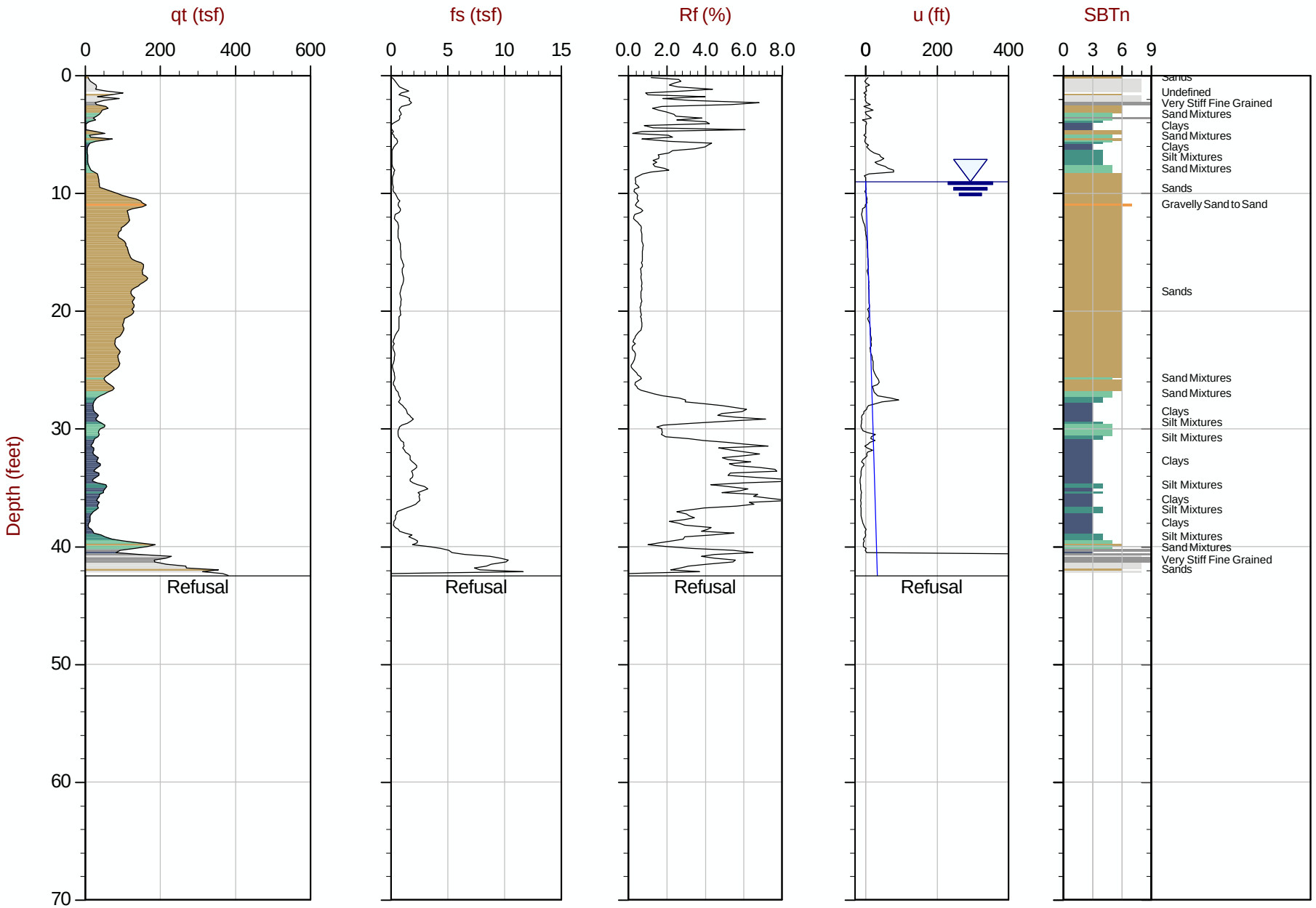
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:31:12 10:07
Site: Dump Road

Sounding: DR-CPT-06
Cone: 167:T1500F15U500



Max Depth: 12.950 m / 42.49 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP06.COR
Unit Wt: SBT Chart Soil Zones

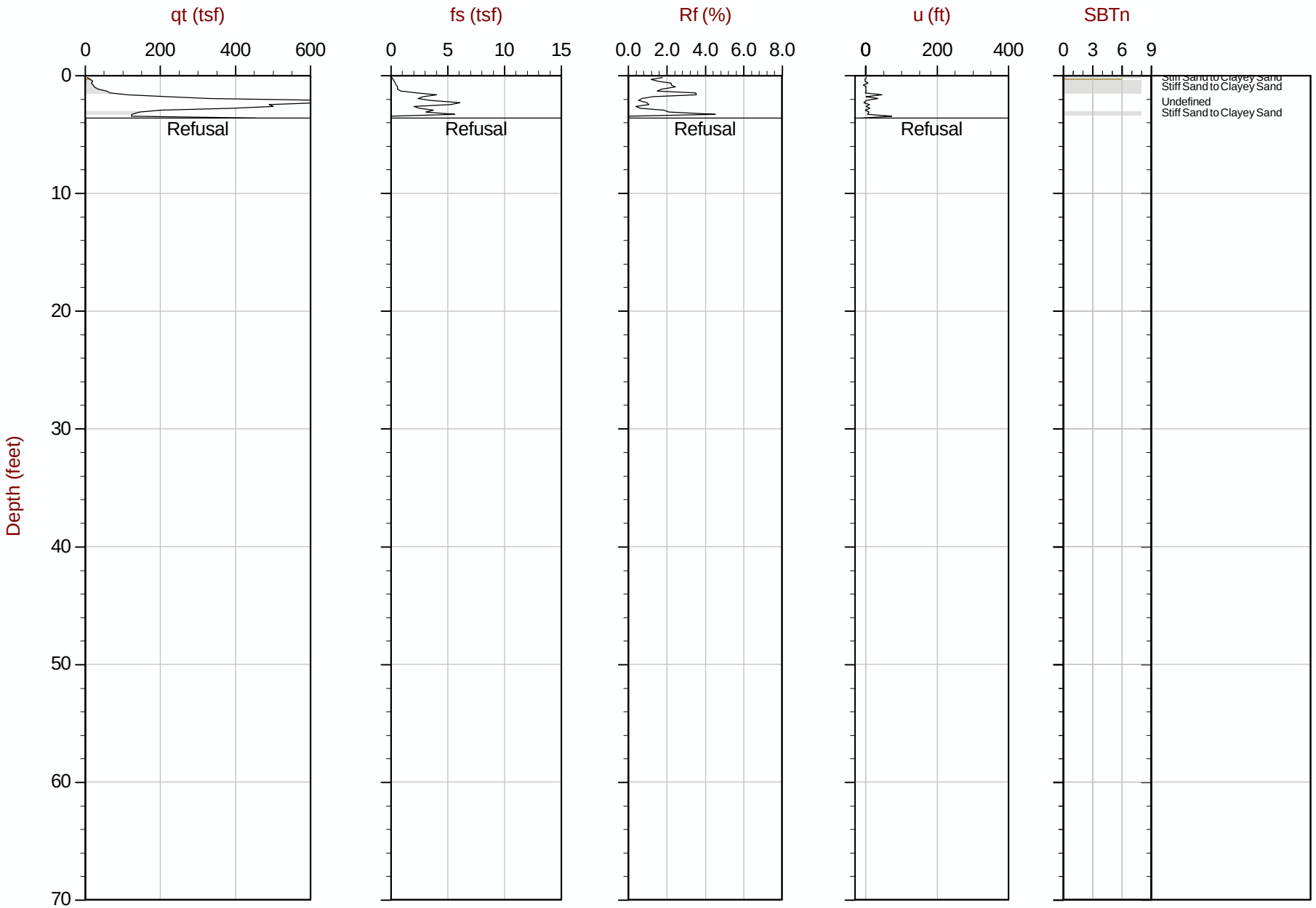
SBT: Lunne, Robertson and Powell, 1997
Page No: 1 of 1

CONETEC

TertaTech

Job No: 12-972
Date: 08:31:12 09:19
Site: Dump Road

Sounding: DR-CPT-07
Cone: 167:T1500F15U500



Max Depth: 1.100 m / 3.61 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP07.COR
Unit Wt: SBT Chart Soil Zones

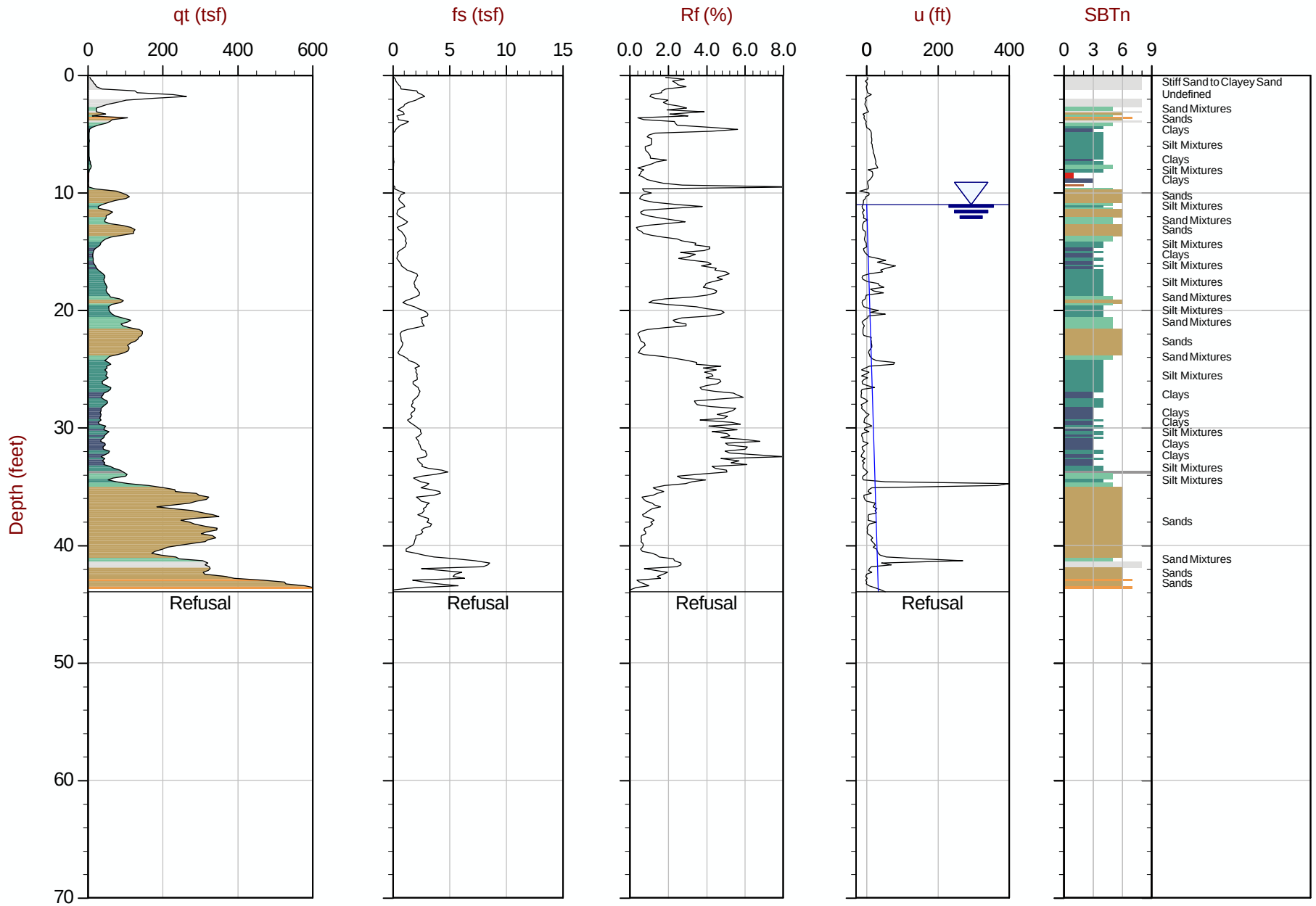
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:31:12 09:30
Site: Dump Road

Sounding: DR-CPT-07a
Cone: 167:T1500F15U500



Max Depth: 13.400 m / 43.96 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP07A.COR
Unit Wt: SBT Chart Soil Zones

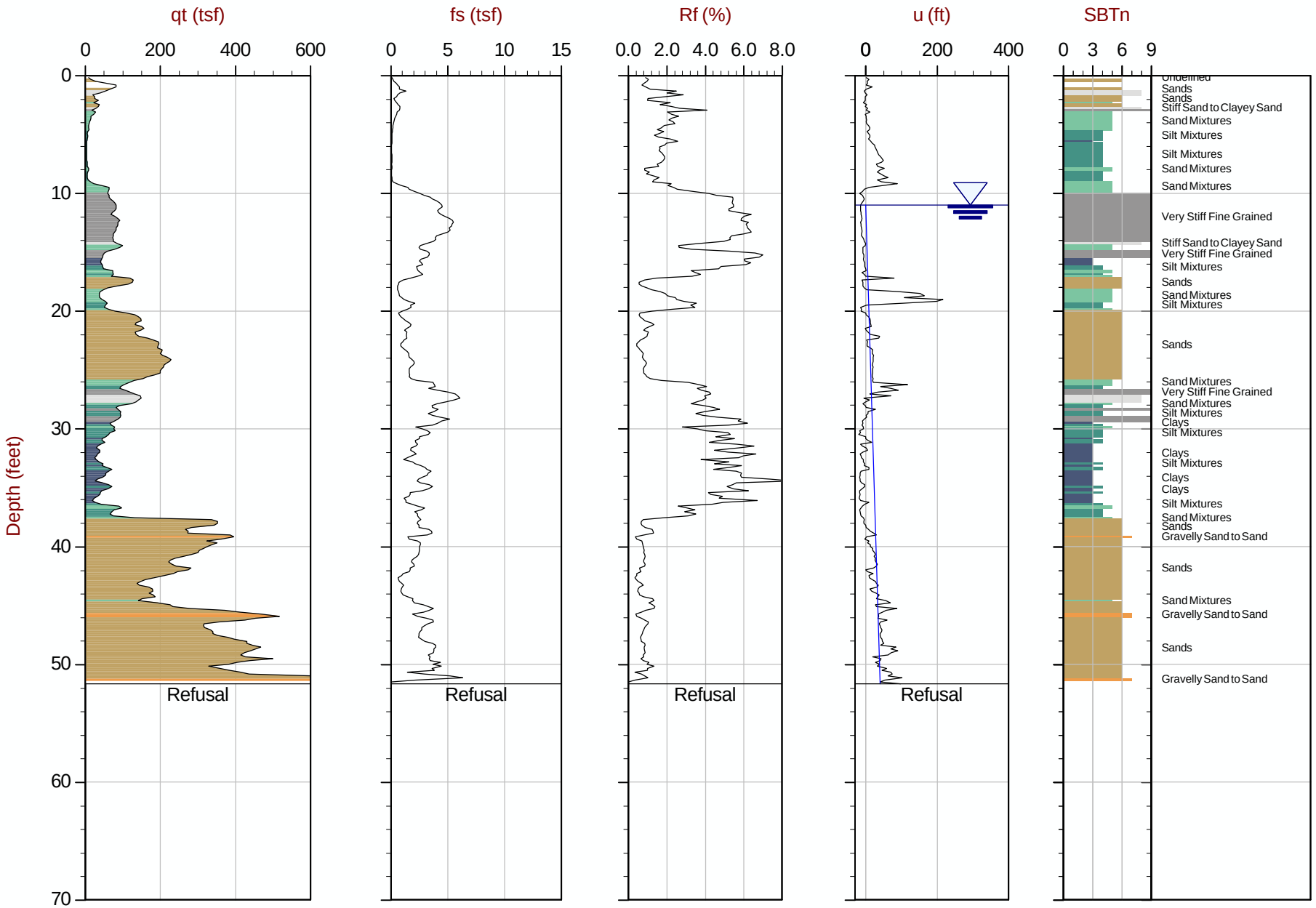
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:30:12 09:35
Site: Dump Road

Sounding: DR-CPT-08
Cone: 167:T1500F15U500



Max Depth: 15.750 m / 51.67 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP08.COR
Unit Wt: SBT Chart Soil Zones

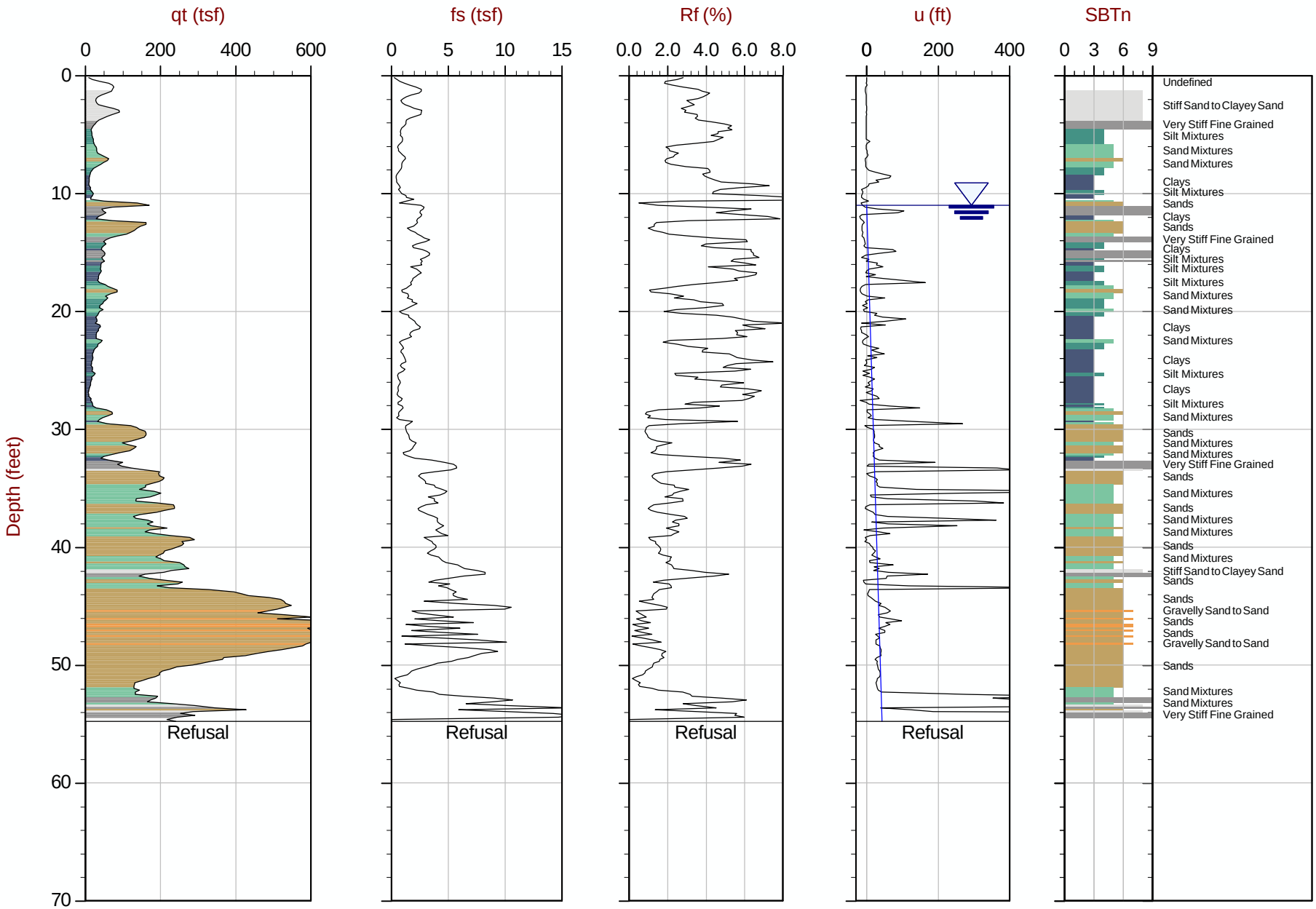
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:29:12 08:48
Site: Dump Road

Sounding: DR-CPT-09
Cone: 167:T1500F15U500



Max Depth: 16.700 m / 54.79 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP09.COR
Unit Wt: SBT Chart Soil Zones

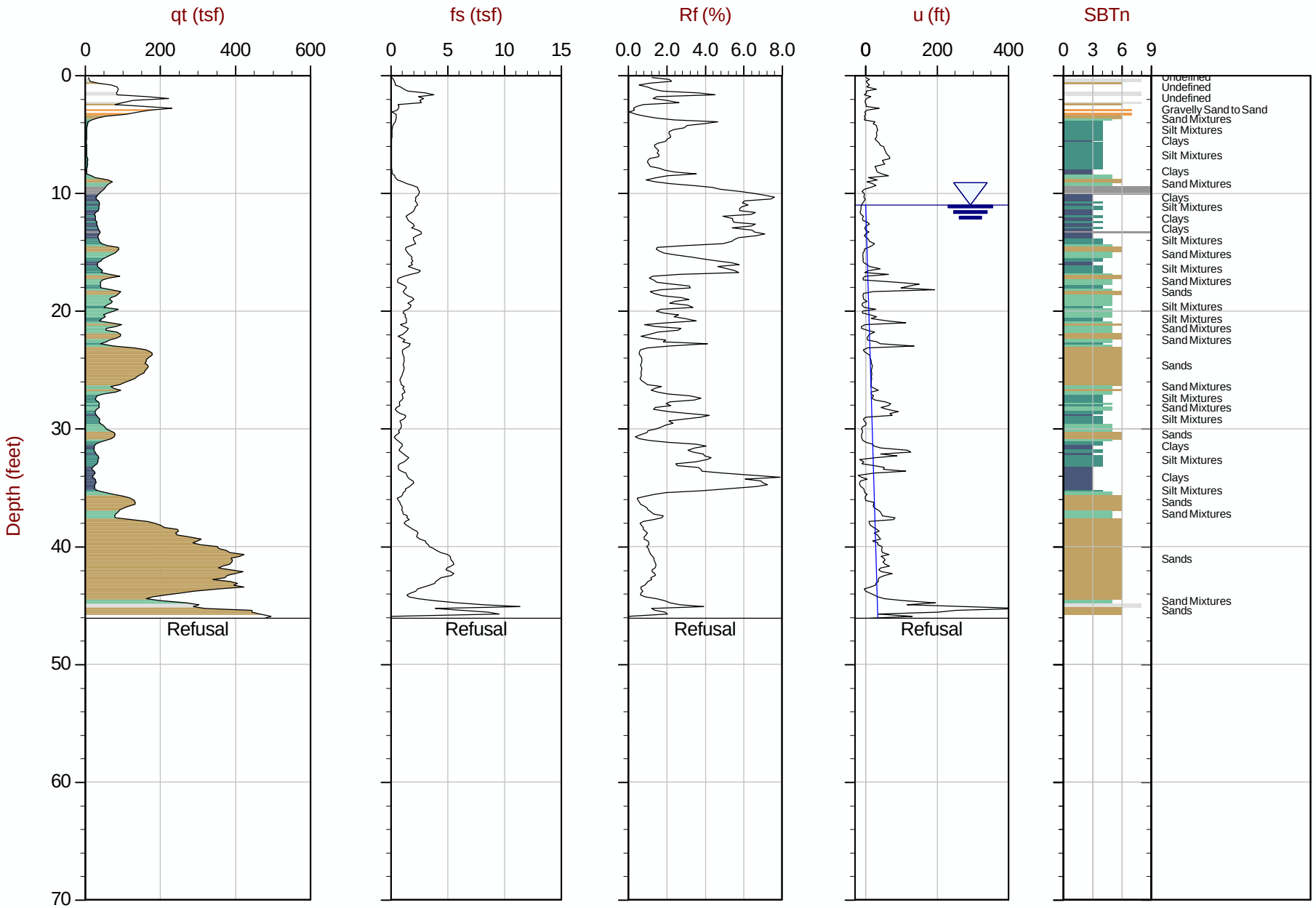
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:30:12 09:35
Site: Dump Road

Sounding: DR-CPT-10
Cone: 167:T1500F15U500



Max Depth: 14.050 m / 46.10 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP10.COR
Unit Wt: SBT Chart Soil Zones

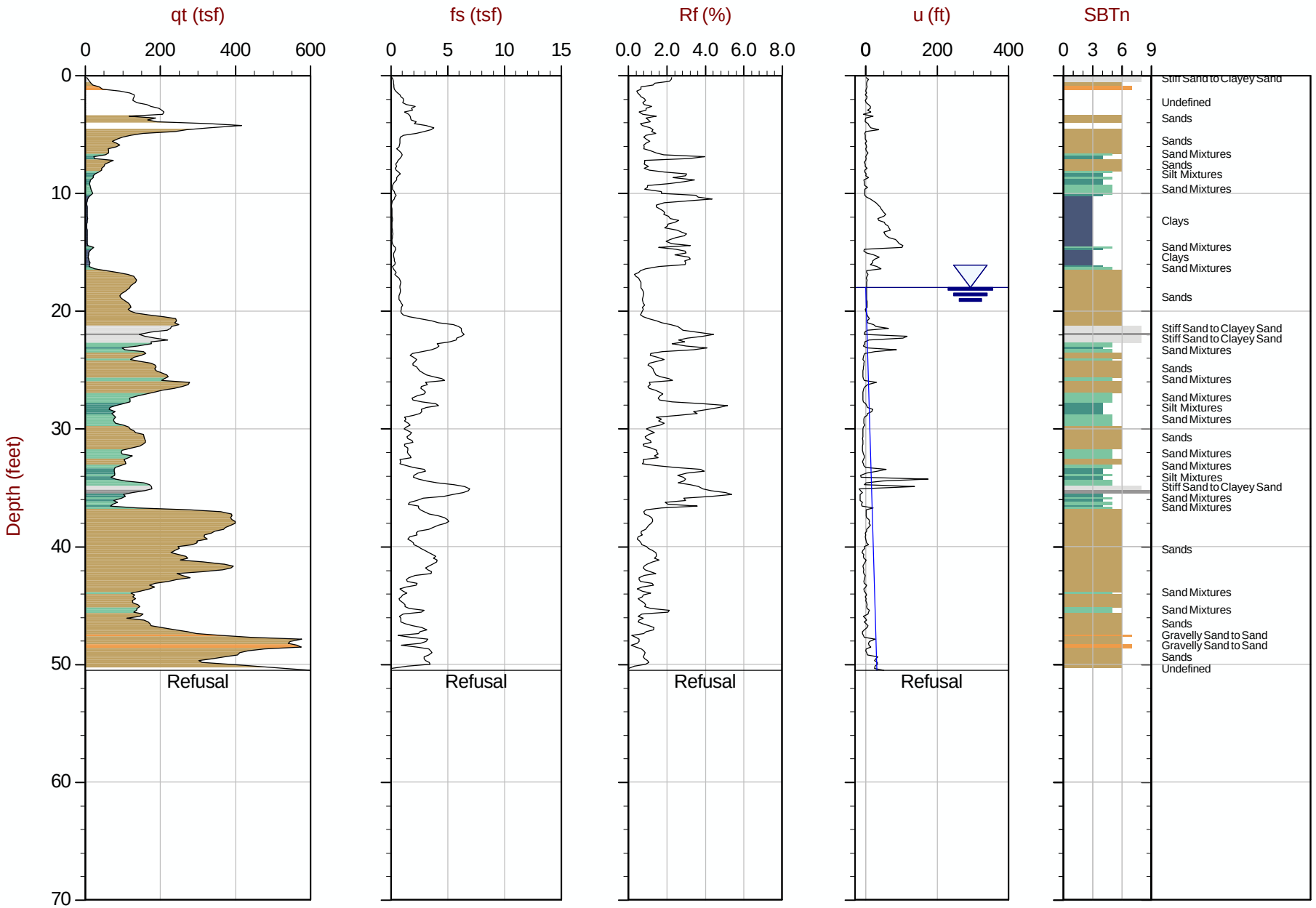
SBT: Lunne, Robertson and Powell, 1997
Page No: 1 of 1

CONETEC

TertaTech

Job No: 12-972
Date: 08:27:12 09:46
Site: Dump Road

Sounding: DR-CPT-11
Cone: 167:T1500F15U500



Max Depth: 15.400 m / 50.52 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP11.COR
Unit Wt: SBT Chart Soil Zones

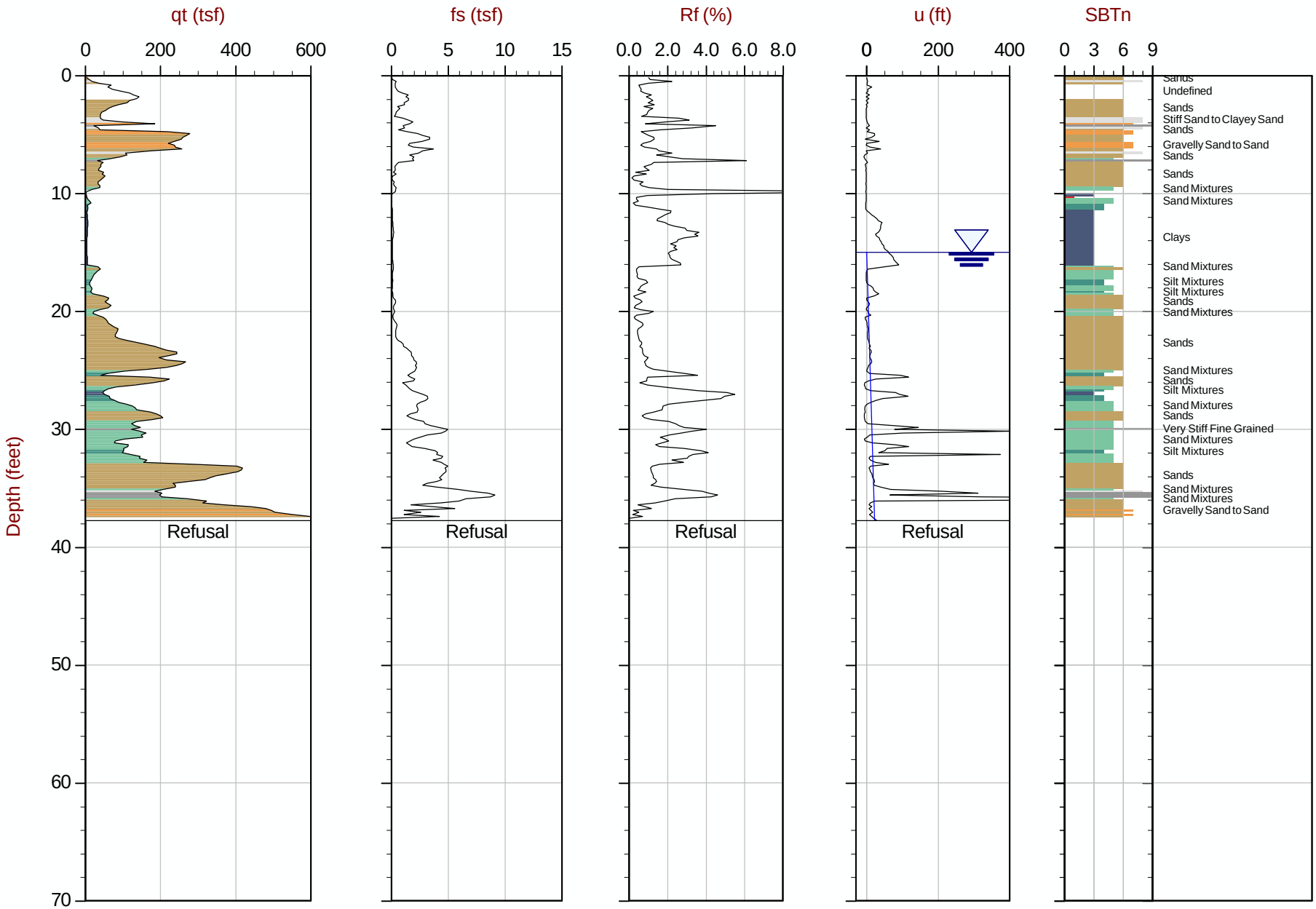
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:28:12 08:44
Site: Dump Road

Sounding: DR-CPT-12
Cone: 167:T1500F15U500



Max Depth: 11.500 m / 37.73 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP12.COR
Unit Wt: SBT Chart Soil Zones

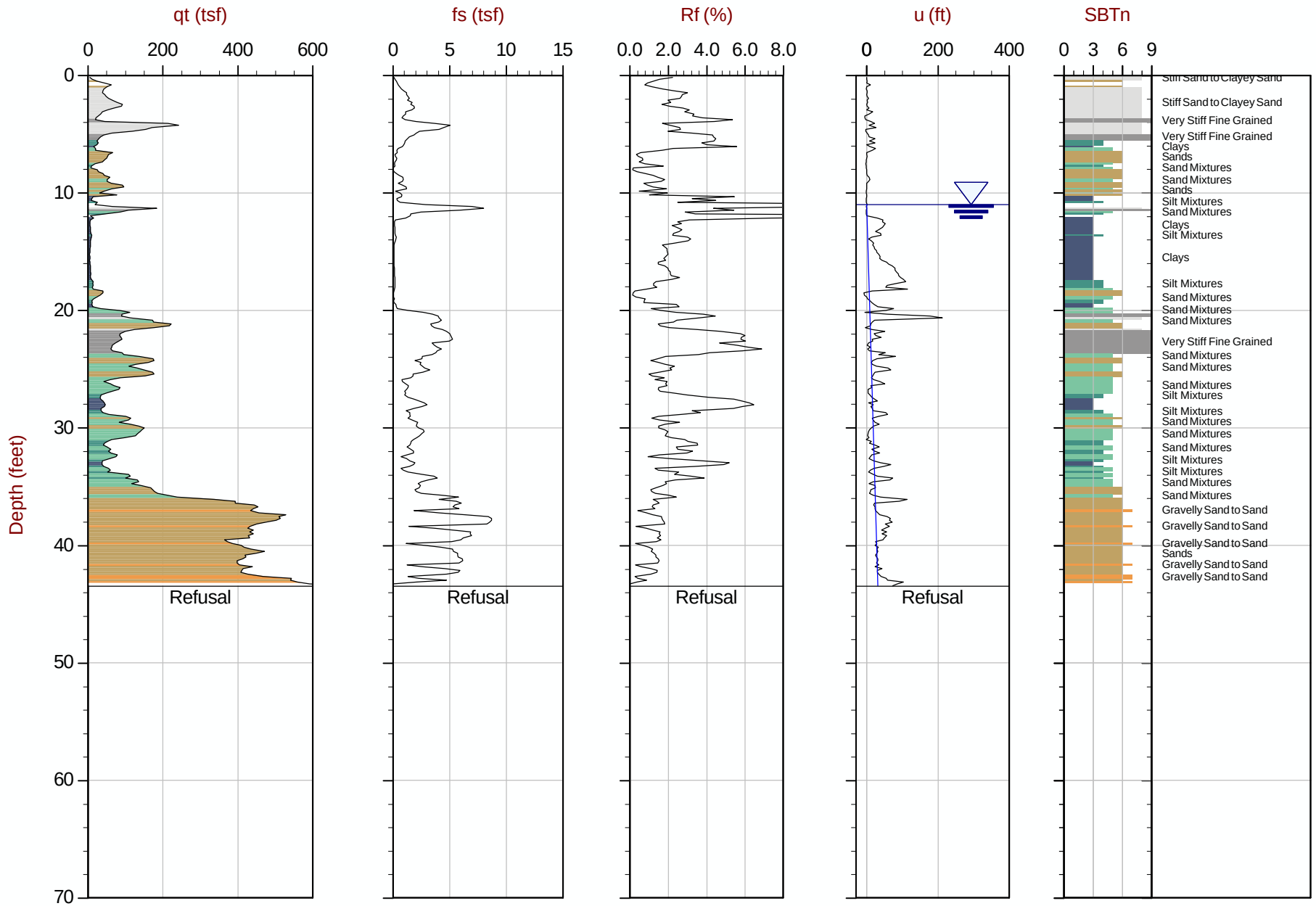
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:27:12 14:23
Site: Dump Road

Sounding: DR-CPT-13
Cone: 167:T1500F15U500



Max Depth: 13.250 m / 43.47 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP13.COR
Unit Wt: SBT Chart Soil Zones

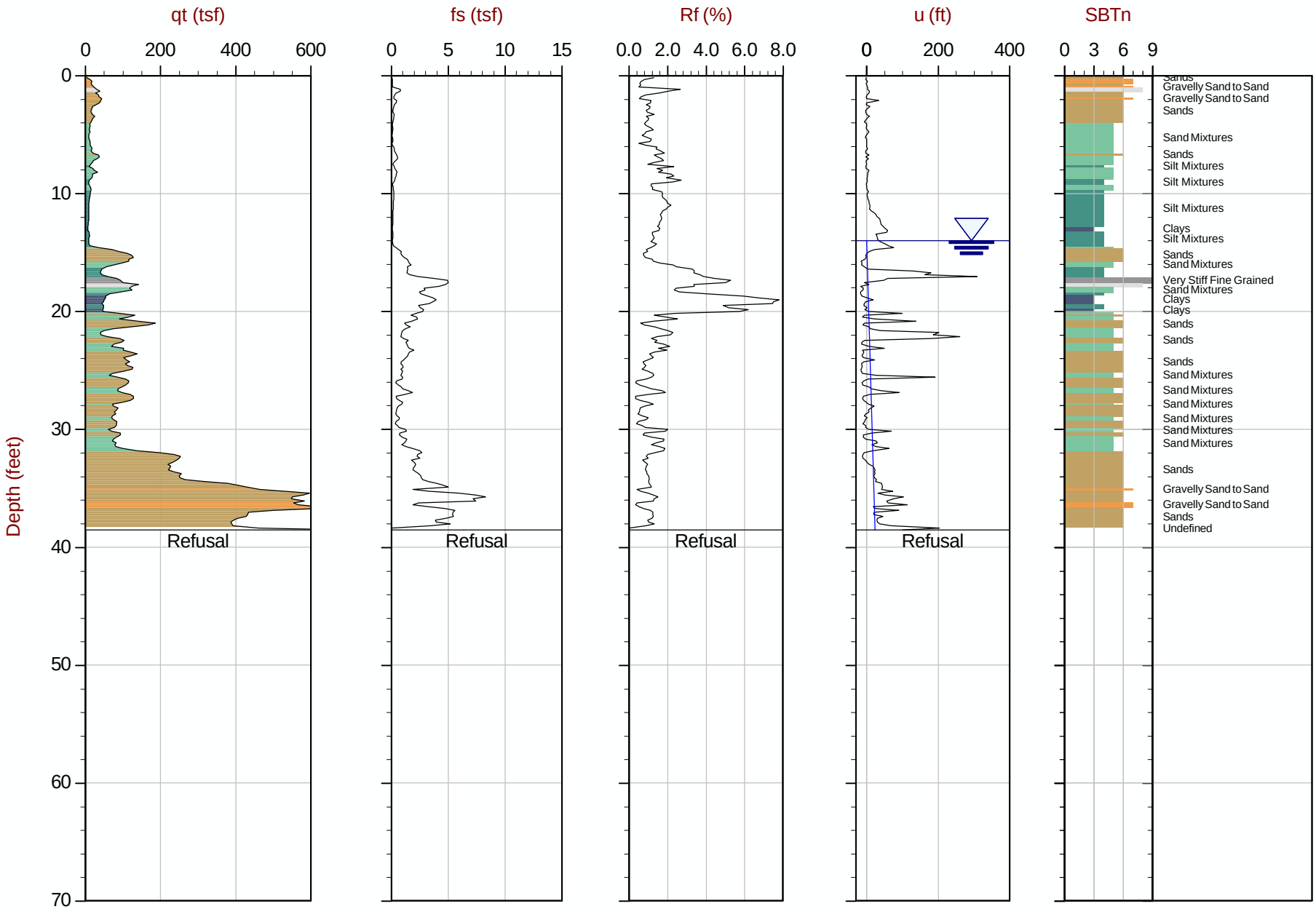
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:27:12 12:37
Site: Dump Road

Sounding: DR-CPT-14
Cone: 167:T1500F15U500



Max Depth: 11.750 m / 38.55 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP14.COR
Unit Wt: SBT Chart Soil Zones

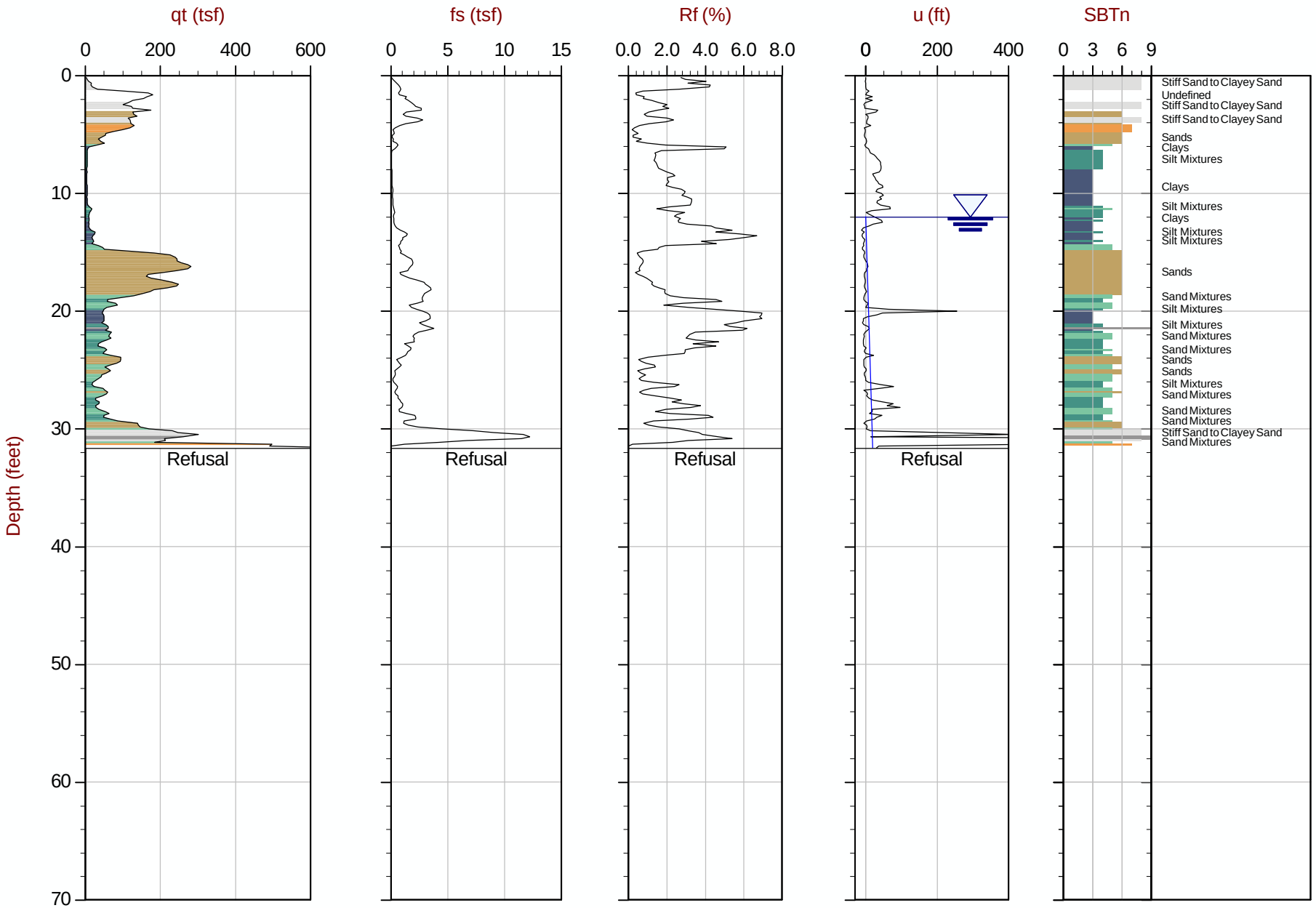
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:27:12 10:48
Site: Dump Road

Sounding: DR-CPT-15
Cone: 167:T1500F15U500



Max Depth: 9.650 m / 31.66 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP15.COR
Unit Wt: SBT Chart Soil Zones

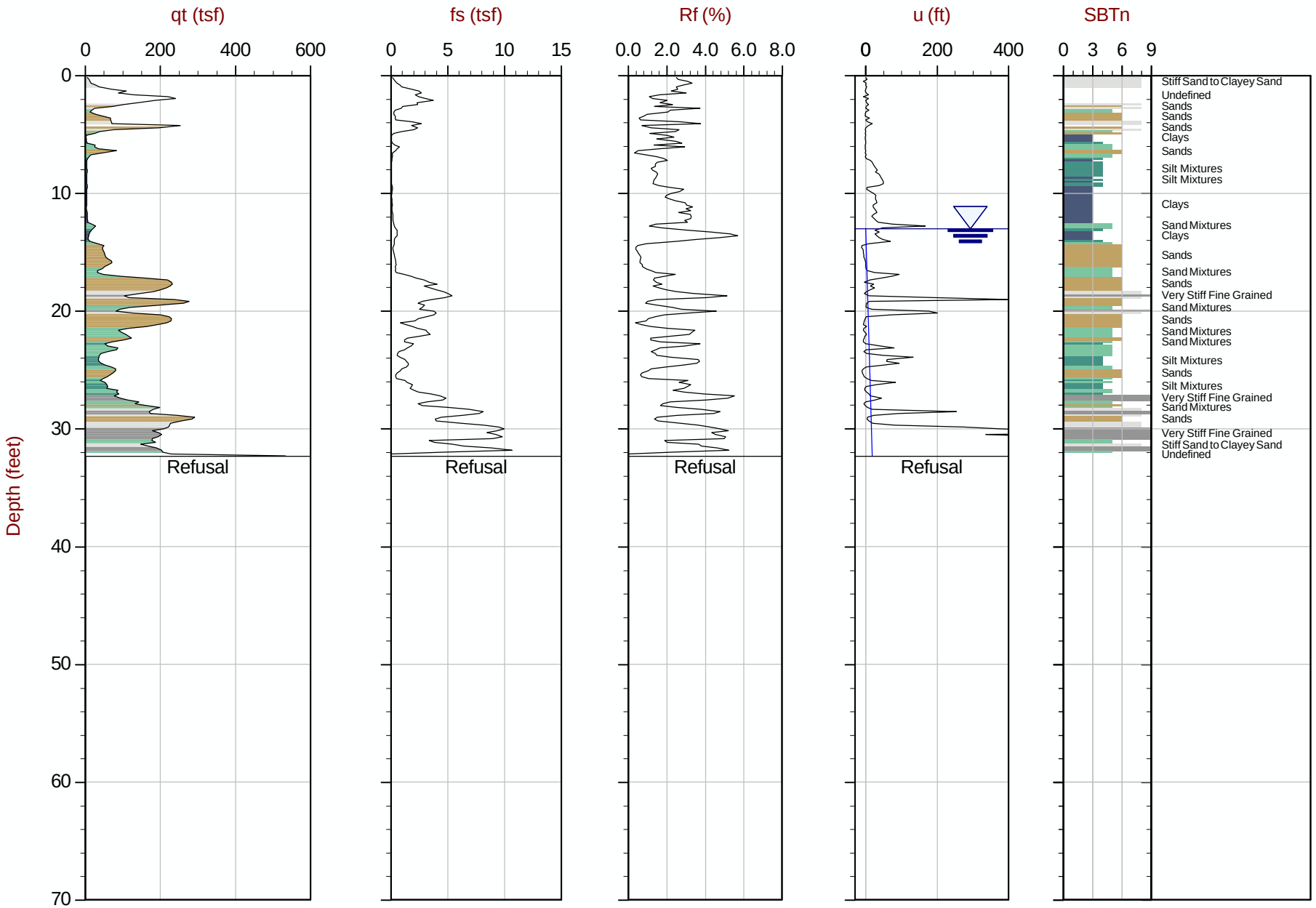
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:27:12 12:35
Site: Dump Road

Sounding: DR-CPT-15a
Cone: 167:T1500F15U500



Max Depth: 9.850 m / 32.32 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP15A.COR
Unit Wt: SBT Chart Soil Zones

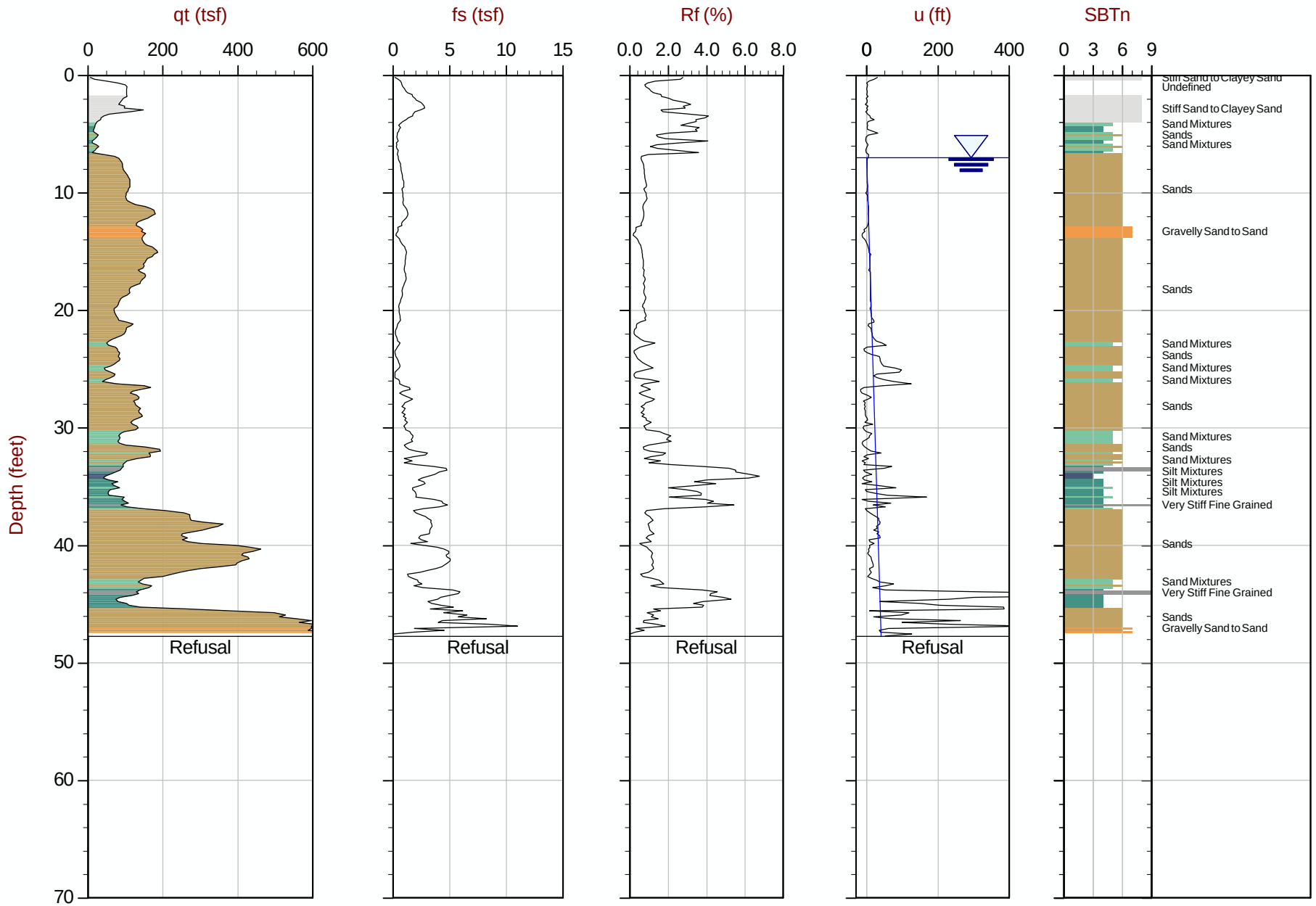
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:30:12 08:40
Site: Dump Road

Sounding: DR-CPT-16
Cone: 167:T1500F15U500



Max Depth: 14.550 m / 47.74 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP16.COR
Unit Wt: SBT Chart Soil Zones

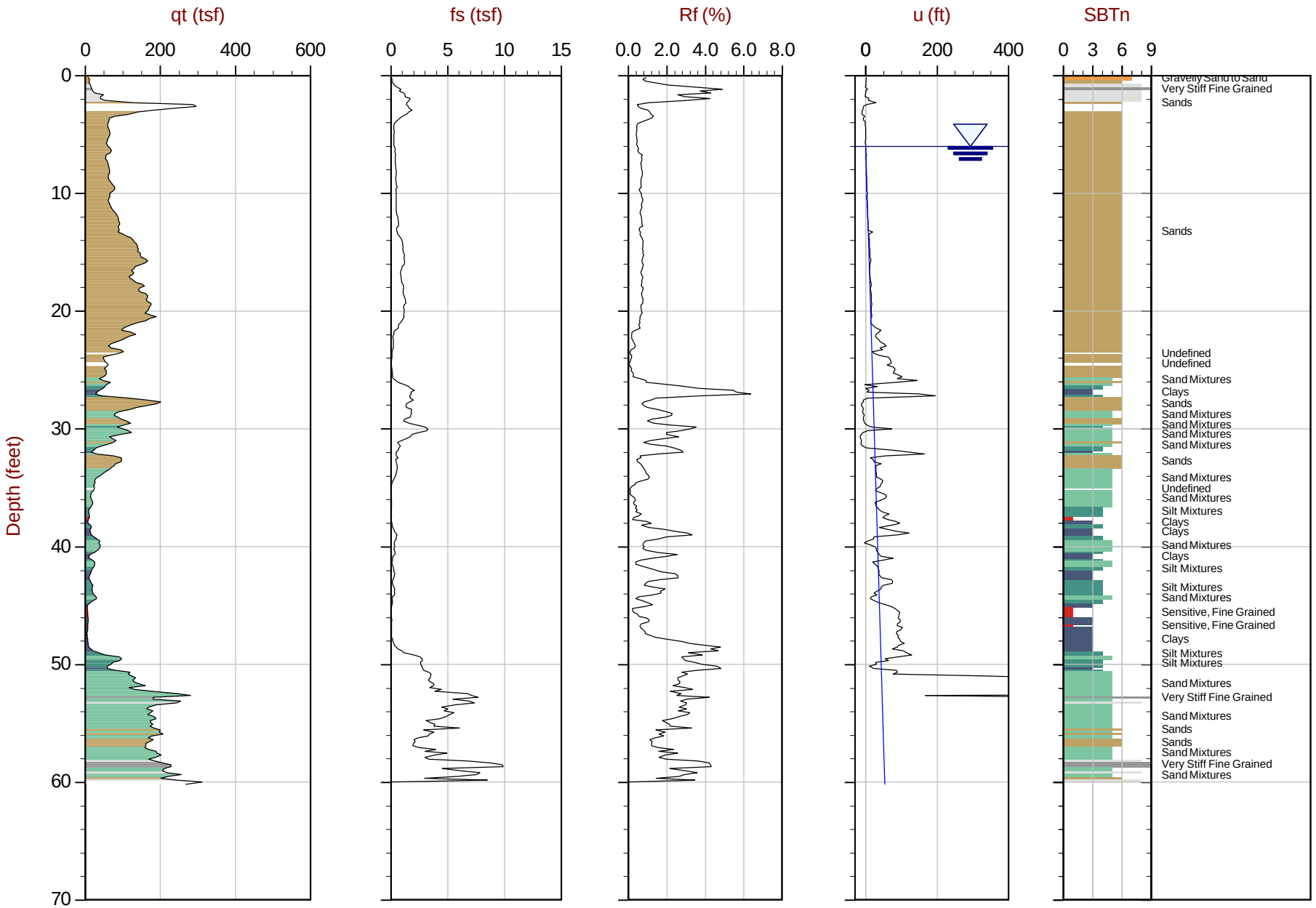
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:29:12 13:42
Site: Dump Road

Sounding: DR-CPT-17
Cone: 167:T1500F15U500



Max Depth: 18.350 m / 60.20 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP17.COR
Unit Wt: SBT Chart Soil Zones

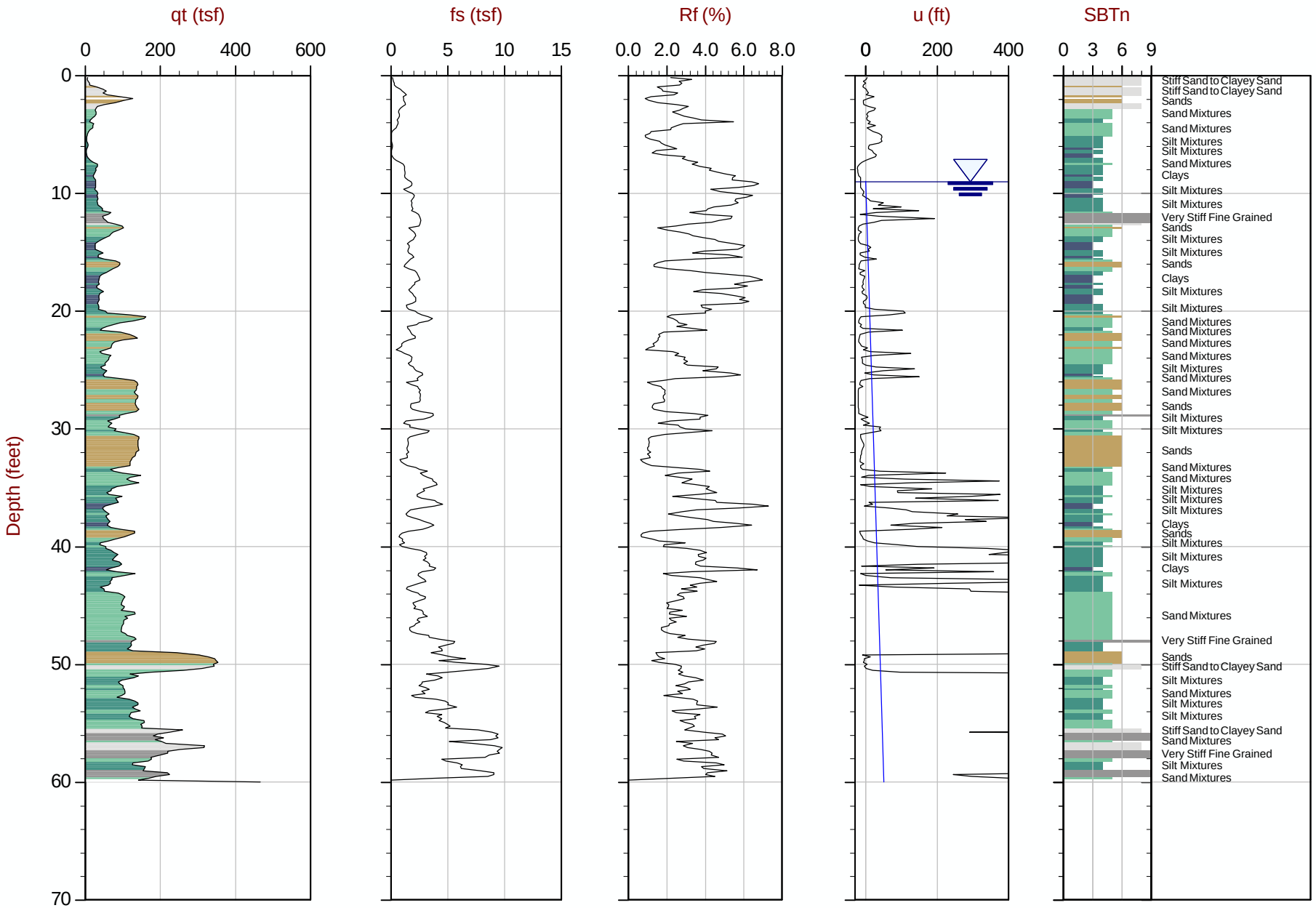
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:31:12 10:53
Site: Dump Road

Sounding: DR-CPT-18
Cone: 167:T1500F15U500



Max Depth: 18.300 m / 60.04 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP18.COR
Unit Wt: SBT Chart Soil Zones

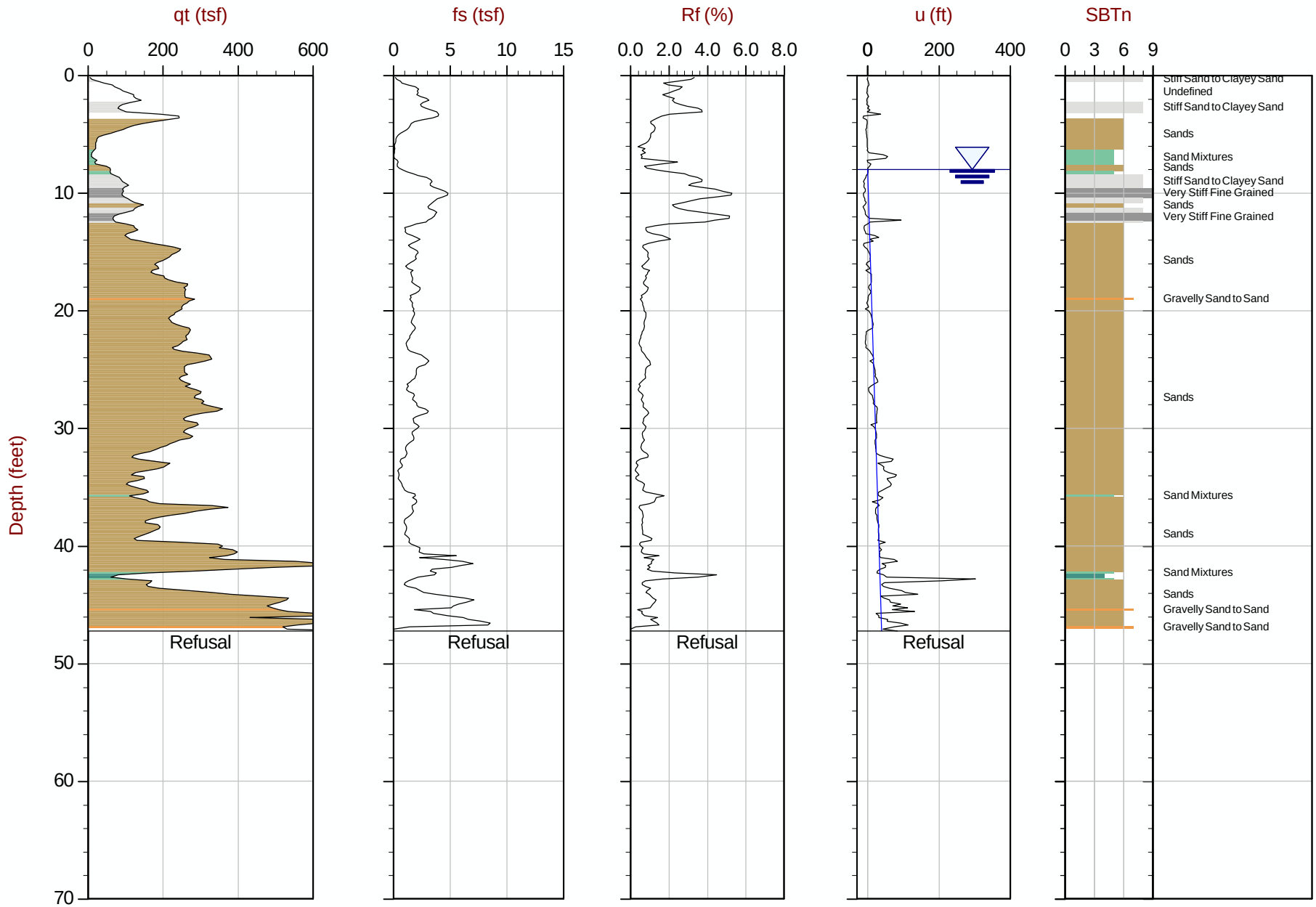
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:29:12 10:04
Site: Dump Road

Sounding: DR-CPT-19
Cone: 167:T1500F15U500



Max Depth: 14.400 m / 47.24 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP19.COR
Unit Wt: SBT Chart Soil Zones

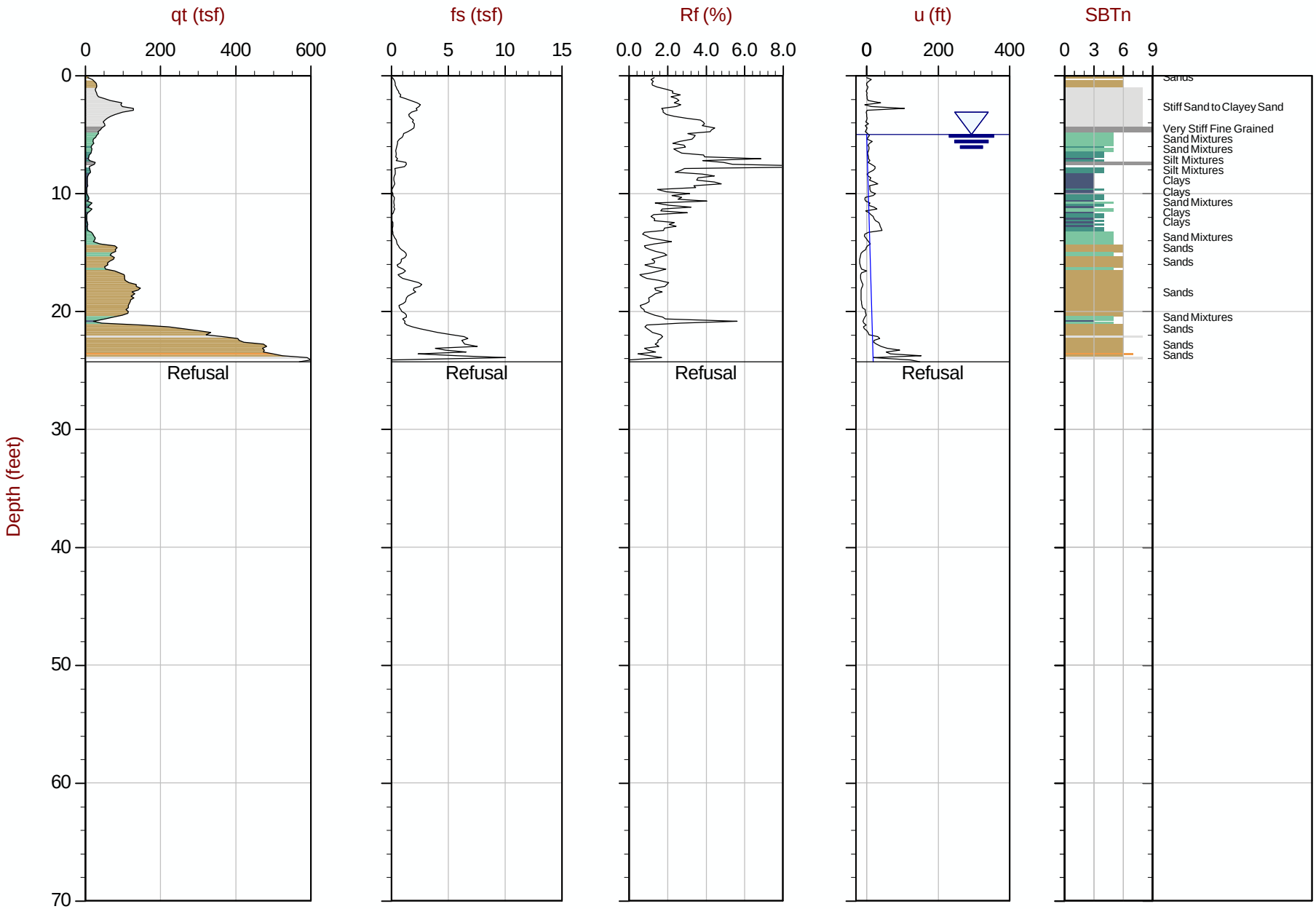
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:28:12 10:41
Site: Dump Road

Sounding: DR-CPT-20
Cone: 167:T1500F15U500



Max Depth: 7.400 m / 24.28 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP20.COR
Unit Wt: SBT Chart Soil Zones

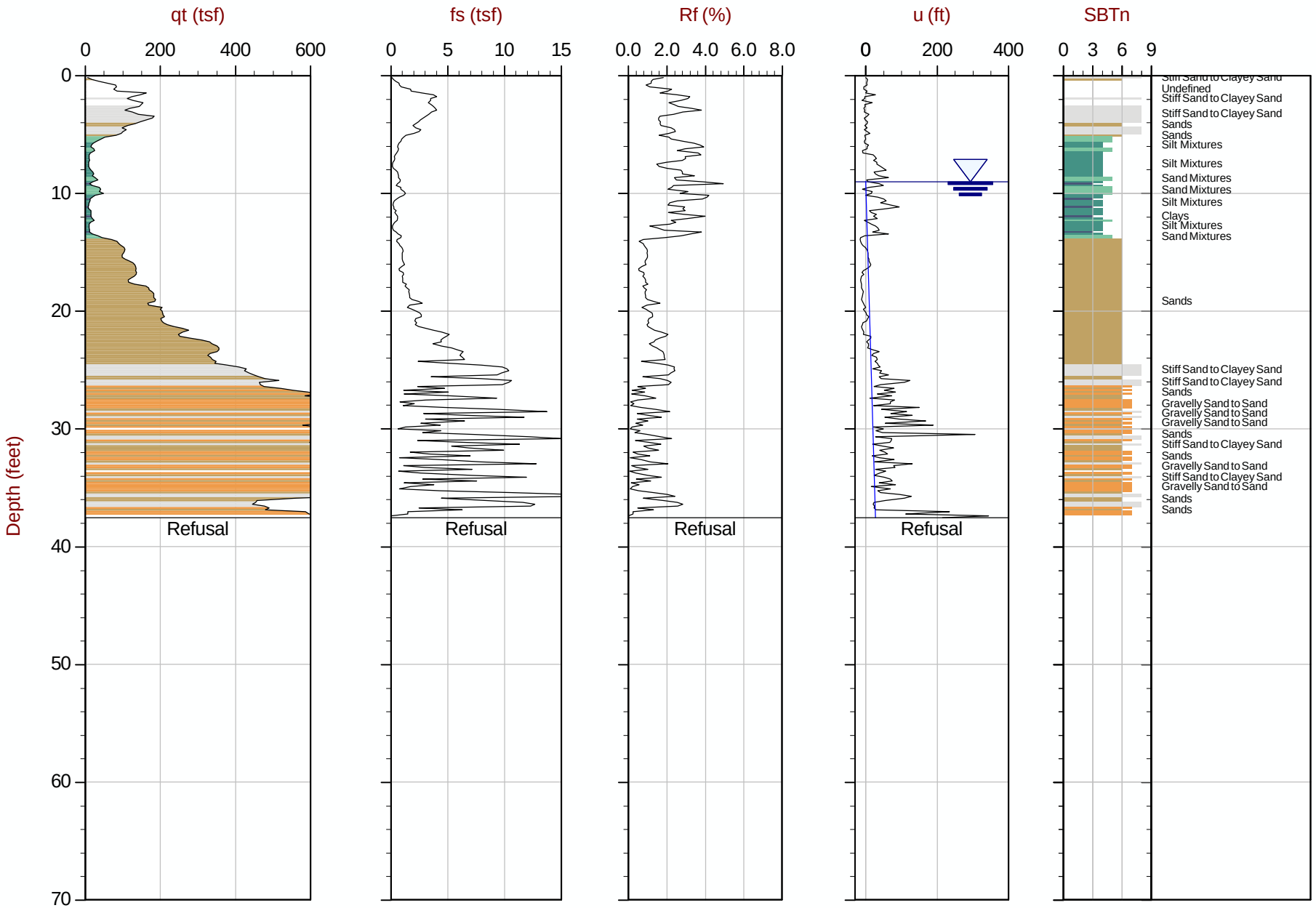
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:28:12 14:06
Site: Dump Road

Sounding: DR-CPT-20a
Cone: 167:T1500F15U500



Max Depth: 11.450 m / 37.57 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP20A.COR
Unit Wt: SBT Chart Soil Zones

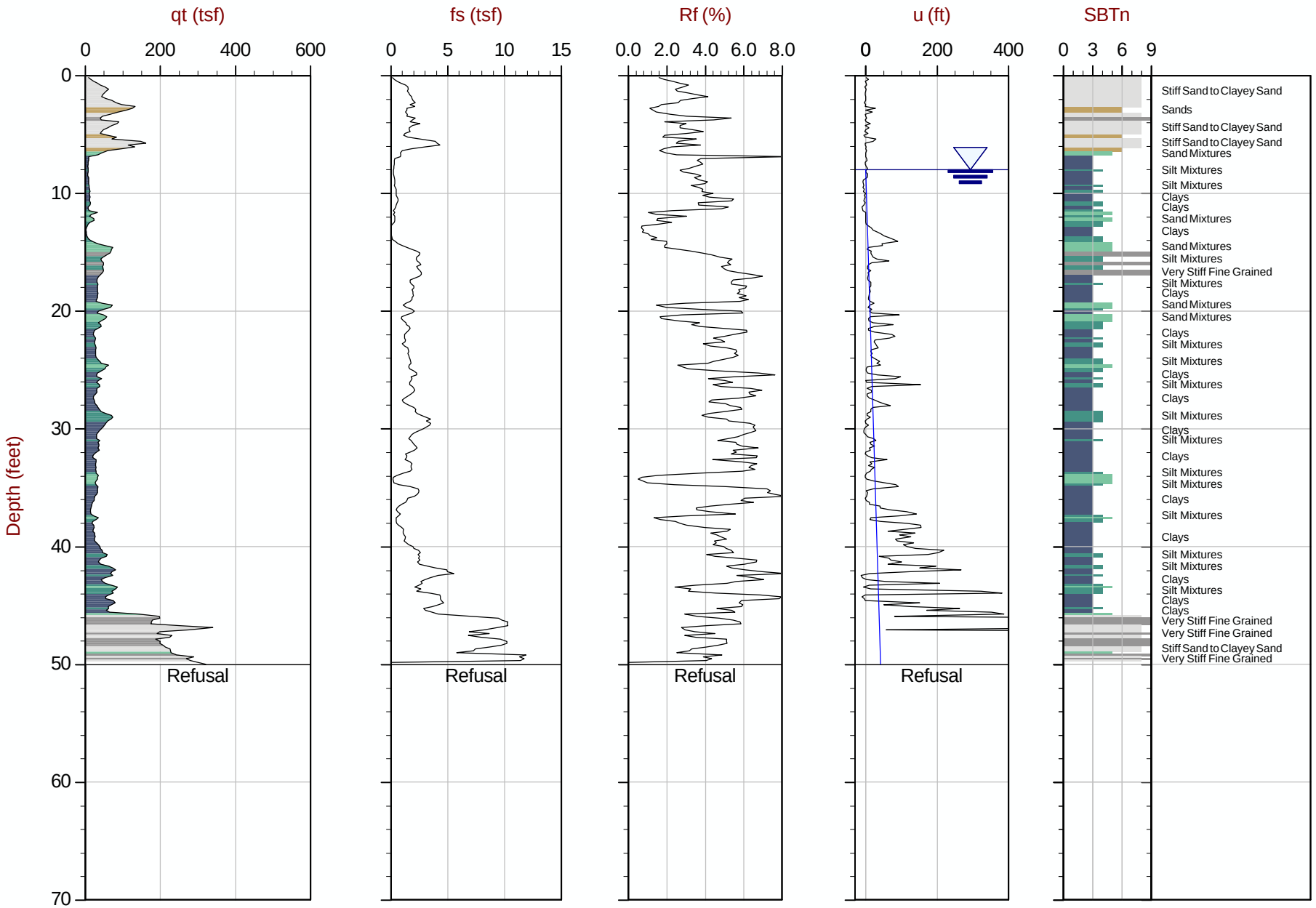
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:28:12 13:02
Site: Dump Road

Sounding: DR-CPT-21
Cone: 167:T1500F15U500



Max Depth: 15.250 m / 50.03 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP21.COR
Unit Wt: SBT Chart Soil Zones

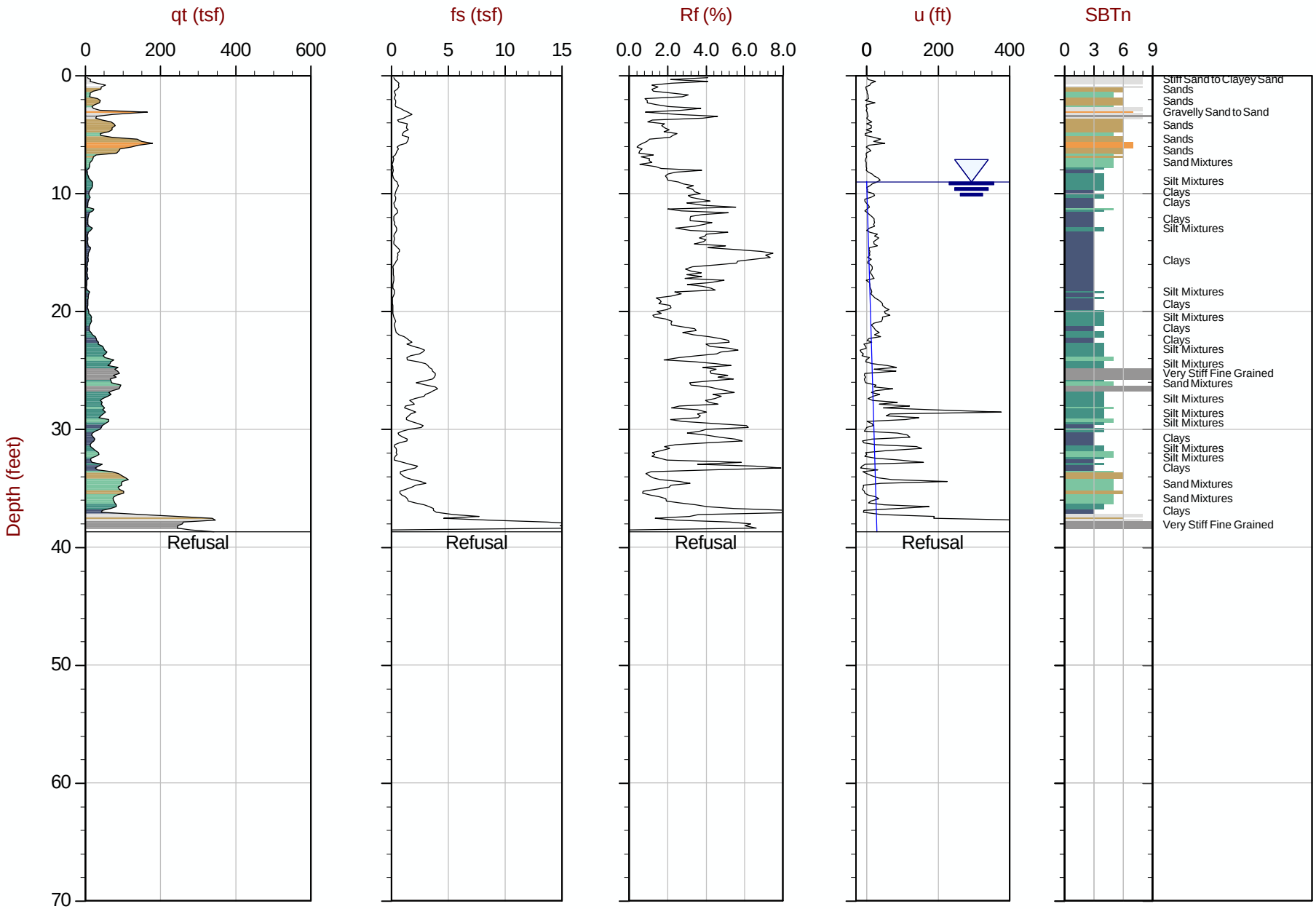
SBT: Lunne, Robertson and Powell, 1997

CONETEC

TertaTech

Job No: 12-972
Date: 08:28:12 09:44
Site: Dump Road

Sounding: DR-CPT-22
Cone: 167:T1500F15U500



Max Depth: 11.800 m / 38.71 ft
Depth Inc: 0.050 m / 0.164 ft
Avg Int: Every Point

File: 972CP22.COR
Unit Wt: SBT Chart Soil Zones

SBT: Lunne, Robertson and Powell, 1997
Page No: 1 of 1

APPENDIX B

CONETEC INTERPRETATION METHODS

A Detailed Description of the Methods Used in ConeTec's CPT Interpretation and Plotting Software



Revision SZW-Rev 05A
April 8, 2011

Prepared by Jim Greig

ConeTec Interpretations as of April 8, 2011

ConeTec's interpretation routine provides a tabular output of geotechnical parameters based on current published CPT correlations and is subject to change to reflect the current state of practice. The interpreted values are not considered valid for all soil types. The interpretations are presented only as a guide for geotechnical use and should be carefully scrutinized for consideration in any geotechnical design. Reference to current literature is strongly recommended. ConeTec does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the program and does not assume liability for any use of the results in any design or review. Representative hand calculations should be made for any parameter that is critical for design purposes. The end user of the interpreted output should also be fully aware of the techniques and the limitations of any method used in this program. The purpose of this document is to inform the user as to which methods were used and what the appropriate papers and/or publications are for further reference.

The CPT interpretations are based on values of tip, sleeve friction and pore pressure averaged over a user specified interval (e.g. 0.20m). Note that q_t is the tip resistance corrected for pore pressure effects and q_c is the recorded tip resistance. Since all ConeTec cones have equal end area friction sleeves, pore pressure corrections to sleeve friction, f_s, are not required.

The tip correction is: $q_t = q_c + (1-a) \cdot u_2$

where: q_t is the corrected tip resistance
q_c is the recorded tip resistance
u_2 is the recorded dynamic pore pressure behind the tip (u_2 position)
a is the Net Area Ratio for the cone (typically 0.80 for ConeTec cones)

The total stress calculations are based on soil unit weights that have been assigned to the Soil Behavior Type zones, from a user defined unit weight profile or by using a single value throughout the profile.

Effective vertical overburden stresses are calculated based on a hydrostatic distribution of equilibrium pore pressures below the water table or from a user defined equilibrium pore pressure profile (this can be obtained from CPT dissipation tests). For over water projects the effects of the column of water have been taken into account as has the appropriate unit weight of water. How this is done depends on where the instruments were zeroed (i.e. on deck or at mud line).

Details regarding the interpretation methods for all of the interpreted parameters are provided in Table 1. The appropriate references cited in Table 1 are listed in Table 2. Where methods are based on charts or techniques that are too complex to describe in this summary the user should refer to the cited material.

The Soil Behavior Type classification charts (normalized and non-normalized) shown in Figures 1 and 2 are based on the charts developed by Dr. Robertson and Dr. Campanella at the University of British Columbia. These charts appear in many publications, most notably: Robertson, Campanella, Gillespie and Greig (1986); Robertson (1990) and Lunne, Robertson and Powell (1997). The Bq classification charts shown in Figures 3a and 3b are based on those described in Robertson (1990) and Lunne, Robertson and Powell (1997). The Jefferies and Davies SBT chart shown in Figure 3c is based on that discussed in Jefferies and Davies, 1993.

Where the results of a calculation/interpretation are declared *'invalid'* the value will be represented by the text strings "-9999" or "-9999.0". In some cases the value 0 will be used. Invalid results will occur because of (and not limited to) one or a combination of:

1. Invalid or undefined CPT data (e.g. drilled out section or data gap).

2. Where the interpretation method is inappropriate, for example, drained parameters in an undrained material (and vice versa).

3. Where interpretation input values are beyond the range of the referenced charts or specified limitations of the interpretation method.

4. Where pre-requisite or intermediate interpretation calculations are invalid.

The parameters selected for output from the program are often specific to a particular project. As such, not all of the interpreted parameters listed in Table 1 may be included in the output files delivered with this report.

The output files are provided in Microsoft Excel XLS format. The ConeTec software has several options for output depending on the number or types of interpreted parameters desired. Each output file will be named using the original COR file basename followed by a three or four letter indicator of the interpretation set selected (e.g. BSC, TBL, NLI or IFI) and possibly followed by an operator selected suffix identifying the characteristics of the particular interpretation run.

Table 1
CPT Interpretation Methods

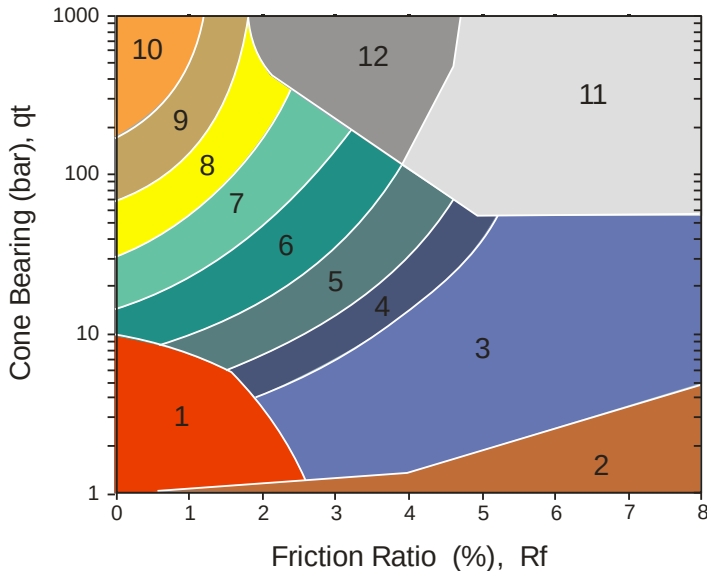
Interpreted Parameter	Description	Equation	Ref
Depth	Mid Layer Depth *(where interpretations are done at each point then Mid Layer Depth = Recorded Depth)*	*Depth (Layer Top) + Depth (Layer Bottom) / 2.0*	
Elevation	Elevation of Mid Layer based on sounding collar elevation supplied by client	Elevation = Collar Elevation - Depth	
Avgqc	Averaged recorded tip value (q_c)	$Avgqc = \frac{1}{n}\sum_{i=1}^{n} q_c$ *n=1 when interpretations are done at each point*	
Avgqt	Averaged corrected tip (q_t) where: $q_t = q_c + (1-a) \bullet u$	$Avgqt = \frac{1}{n}\sum_{i=1}^{n} q_t$ *n=1 when interpretations are done at each point*	
Avgfs	Averaged sleeve friction (f_s)	$Avgfs = \frac{1}{n}\sum_{i=1}^{n} fs$ *n=1 when interpretations are done at each point*	
AvgRf	Averaged friction ratio (Rf) where friction ratio is defined as: $Rf = 100\% \bullet \frac{fs}{qt}$	$AvgRf = 100\% \cdot \frac{Avgfs}{Avgqt}$ *n=1 when interpretations are done at each point*	
Avgu	Averaged dynamic pore pressure *(u)*	$Avgu = \frac{1}{n}\sum_{i=1}^{n} u_i$ *n=1 when interpretations are done at each point*	
AvgRes	Averaged Resistivity (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} RESISTIVITY_i$ *n=1 when interpretations are done at each point*	
AvgUVIF	Averaged UVIF ultra-violet induced fluorescence (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} UVIF_i$ *n=1 when interpretations are done at each point*	
AvgTemp	Averaged Temperature (this data is not always available since it is a specialized test)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} TEMPERATUR\,E_i$ *n=1 when interpretations are done at each point*	

Interpreted Parameter	Description	Equation	Ref
AvgGamma	Averaged Gamma Counts (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} GAMMA_i$ *n=1 when interpretations are done at each point*	
SBT	Soil Behavior Type as defined by Robertson and Campanella	See Figure 1	2, 5
U.Wt.	Unit Weight of soil determined from one of the following user selectable options: 1) uniform value 2) value assigned to each SBT zone 3) user supplied unit weight profile	See references	5
T. Stress σ_v	Total vertical overburden stress at Mid Layer Depth. *A layer is defined as the averaging interval specified by the user. For data interpreted at each point the Mid Layer Depth is the same as the recorded depth.*	$TStress = \sum_{i=1}^{n} \gamma_i h_i$ *where* γ_i is layer unit weight h_i is layer thickness	
E. Stress σ_v'	Effective vertical overburden stress at Mid Layer Depth	*Estress = Tstress - u_{eq}*	
Ueq	Equilibrium pore pressure determined from one of the following user selectable options: 1) hydrostatic from water table depth 2) user supplied profile	For hydrostatic option: $u_{eq} = \gamma_w \cdot (D - D_{wt})$ where u_{eq} is equilibrium pore pressure γ_w is unit weight of water D is the current depth D_{wt} is the depth to the water table	
Cn	SPT N_{60} overburden correction factor	*$Cn=(\sigma_v')^{-0.5}$* where *σ_v' is in tsf* *$0.5 < C_n < 2.0$*	
N_{60}	SPT N value at 60% energy calculated from qt/N ratios assigned to each SBT zone. This method has abrupt N value changes at zone boundaries.	*See Figure 1*	4, 5
$(N_1)_{60}$	SPT N_{60} value corrected for overburden pressure	*$(N_1)_{60} = Cn \cdot N_{60}$*	4
$N_{60}I_c$	SPT N_{60} values based on the Ic parameter	(qt/pa)/ N_{60} = 8.5 (1 – Ic/4.6)	5
$(N_1)_{60}$Ic	SPT N_{60} value corrected for overburden pressure (using N_{60} I_c). User has 2 options.	*1) $(N_1)_{60}Ic = Cn \cdot (N_{60}\,Ic)$* 2) q_{c1n}/ *$(N_1)_{60}Ic$* = 8.5 (1 – Ic/4.6)	4 5
$(N_1)_{60cs}$Ic	Clean sand equivalent SPT $(N_1)_{60}$Ic. User has 3 options.	1) $(N_1)_{60cs}Ic = \alpha + \beta((N_1)_{60}Ic)$ 2) $(N_1)_{60cs}Ic = K_{SPT} * ((N_1)_{60}Ic)$ 3) q_{c1ncs})/ $(N_1)_{60cs}$Ic = 8.5 (1 – Ic/4.6) FC ≤ 5%: α = 0, β=1.0 FC ≥ 35% α = 5.0, β=1.2 5% < FC < 35% $\alpha = \exp[1.76 - (190/FC^2)]$ $\beta = [0.99 + (FC^{1.5}/1000)]$	10 10 5
Su	Undrained shear strength based on q_t Su factor N_{kt} is user selectable	$Su = \frac{qt - \sigma_v}{N_{kt}}$	1, 5
Su	Undrained shear strength based on pore pressure Su factor $N_{\Delta u}$ is user selectable	$Su = \frac{u_2 - u_{eq}}{N_{\Delta u}}$	1, 5
k	Coefficient of permeability (assigned to each SBT zone)		5

Interpreted Parameter	Description	Equation	Ref
Bq	Pore pressure parameter	$Bq = \frac{\Delta u}{qt - \sigma_v}$ *where:* $\Delta u = u - u_{eq}$ *and u = dynamic pore pressure* *u_{eq} = equilibrium pore pressure*	1, 5
Q_t	Normalized q_t for Soil Behavior Type classification as defined by Robertson, 1990	$Qt = \frac{qt - \sigma_v}{\sigma'_v}$	2, 5
F_r	Normalized Friction Ratio for Soil Behavior Type classification as defined by Robertson, 1990	$Fr = 100\% \cdot \frac{fs}{qt - \sigma_v}$	2, 5
Net qt	Net tip resistance	$qt - \sigma_v$	
qe	Effective tip resistance	$qt - u_2$	
qeNorm	Normalized effective tip resistance	$\frac{qt - u_2}{\sigma'_v}$	
SBTn	Normalized Soil Behavior Type as defined by Robertson and Campanella	See Figure 2	2, 5
SBT-BQ	Non-normalized Soil Behavior type based on the Bq parameter	See Figure 3	2, 5
SBT-BQn	Normalized Soil Behavior based on the Bq parameter	See Figure 3	2, 5
SBT-JandD	Soil Behaviour Type as defined by Jeffries and Davies	See Figure 3	7
SBT-BQn	Normalized Soil Behavior base on the Bq parameter	See Figure 3	2, 5
I_c	Soil index for estimating grain characteristics	*$Ic = [(3.47 - \log_{10}Q)^2 + (\log_{10} Fr + 1.22)^2]^{0.5}$* *Where:* $Q = \left(\frac{qt - \sigma_v}{P_{a2}}\right)\left(\frac{P_a}{\sigma'_v}\right)^n$ *And Fr is in percent* *P_a = atmospheric pressure* *P_{a2} = atmospheric pressure* *n varies from 0.5 to 1.0 and is selected in an iterative manner based on the resulting I_c*	3, 8
FC	Apparent fines content (%)	*$FC = 1.75(Ic^{3.25}) - 3.7$* *FC=100 for Ic > 3.5* *FC=0 for Ic < 1.26* *FC = 5% if 1.64 < Ic < 2.6 AND F_r<0.5*	3
Ic Zone	This parameter is the Soil Behavior Type zone based on the Ic parameter (valid for zones 2 through 7 on SBTn chart)	Ic < 1.31 Zone = 7 1.31 < Ic < 2.05 Zone = 6 2.05 < Ic < 2.60 Zone = 5 2.60 < Ic < 2.95 Zone = 4 2.95 < Ic < 3.60 Zone = 3 Ic > 3.60 Zone = 2	3
PHI ϕ	Friction Angle determined from one of the following user selectable options: a) Campanella and Robertson b) Durgunoglu and Mitchel c) Janbu d) Kulhawy and Mayne	See reference	5 5 5 11

Interpreted Parameter	Description	Equation	Ref
Dr	Relative Density determined from one of the following user selectable options: a) Ticino Sand b) Hokksund Sand c) Schmertmann 1976 d) Jamiolkowski - All Sands	See reference	5
OCR	Over Consolidation Ratio	a) Based on Schmertmann's method involving a plot of $S_u/\sigma_v' / (S_u/\sigma_v')_{NC}$ and OCR where the Su/p' ratio for NC clay is user selectable	9
State Parameter	The state parameter is used to describe whether a soil is contractive (SP is positive) or dilative (SP is negative) at large strains based on the work by Been and Jefferies	See reference	8, 6, 5
Es/qt	Intermediate parameter for calculating Young's Modulus, E, in sands. It is the Y axis of the reference chart.	Based on Figure 5.59 in the reference	5
Young's Modulus E	Young's Modulus based on the work done in Italy. There are three types of sands considered in this technique. The user selects the appropriate type for the site from: a) OC Sands b) Aged NC Sands c) Recent NC Sands Each sand type has a family of curves that depend on mean normal stress. The program calculates mean normal stress and linearly interpolates between the two extremes provided in the Es/qt chart.	Mean normal stress is evaluated from: $\sigma_m' = \frac{1}{3}(\sigma_v' + \sigma_h' + \sigma_h')$ where σ_v'= vertical effective stress σ_h'= horizontal effective stress and $\sigma_h = K_o \cdot \sigma_v'$ with Ko assumed to be 0.5	5
q_{c1}	q_t normalized for overburden stress used for seismic analysis	$q_{c1} = q_t \cdot (Pa/\sigma_v')^{0.5}$ where: Pa = atm. Pressure q_t is in MPa	3
q_{c1n}	q_{c1} in dimensionless form used for seismic analysis	$q_{c1n} = (q_{c1} / Pa)(Pa/\sigma_v')^n$ where: Pa = atm. Pressure and n ranges from 0.5 to 0.75 based on Ic.	3
K_{SPT}	Equivalent clean sand factor for $(N_1)60$	$K_{SPT} = 1 + ((0.75/30) \cdot (FC - 5))$	10
K_{CPT}	Equivalent clean sand correction for q_{c1N}	$K_{cpt} = 1.0$ for $I_c \leq 1.64$ $K_{cpt} = f(I_c)$ for $I_c > 1.64$ (see reference)	10
q_{c1ncs}	Clean sand equivalent q_{c1n}	$q_{c1ncs} = q_{c1n} \cdot K_{cpt}$	3
CRR	Cyclic Resistance Ratio (for Magnitude 7.5)	$q_{c1ncs} < 50$: $CRR_{7.5} = 0.833 [(q_{c1ncs}/1000] + 0.05$ $50 \leq q_{c1ncs} < 160$: $CRR_{7.5} = 93 [(q_{c1ncs}/1000]^3 + 0.08$	10

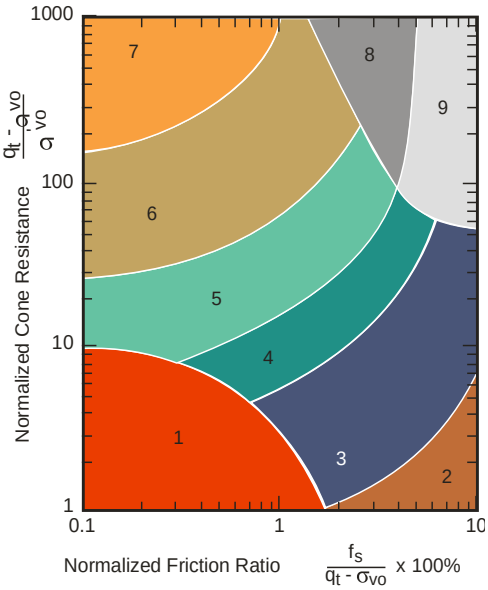
Interpreted Parameter	Description	Equation	Ref
CSR	Cyclic Stress Ratio	$CSR = (\tau_{av}/\sigma_v') = 0.65\ (a_{max} / g)\ (\sigma_v/ \sigma_v')\ r_d$ $r_d = 1.0 - 0.00765\ z$ $z \leq 9.15m$ $r_d = 1.174 - 0.0267\ z$ $9.15 < z \leq 23m$ $r_d = 0.744 - 0.008\ z$ $23 < z \leq 30m$ $r_d = 0.50$ $z > 30m$	10
MSF	Magnitude Scaling Factor	See Reference	10
FofS	Factor of Safety against Liquefaction	$FS = (CRR_{7.5} / CSR)\ MSF$	10
Liquefaction Status	Statement indicating possible liquefaction	Takes into account FofS and limitations based on I_c and q_{c1ncs}.	10
Cont/Dilat Tip	Contractive / Dilative qc1 Boundary based on $(N_1)_{60}$	$(\sigma_v')_{boundary} = 9.58 \times 10^{-4}\ [(N_1)_{60}]^{4.79}$ qc1 is calculated from specified qt(MPa)/N ratio	13
Cq	Normalizing Factor	$Cq = 1.8 / (0.8 + ((\sigma_v'/Pa))$	12
qc1 (Cq)	Normalized tip resistance based on Cq	$q_{c1} = C_q * q_t$ (some papers use q_c)	12
Su(Liq)/s'v	Liquefied Shear Strength Ratio	$\frac{Su(Liq)}{\sigma_v'} = 0.03 + 0.0143(q_{c1})$	13



Zone	qt / N	Soil Behavior Type
1	2	sensitive fine grained
2	1	organic material
3	1	clay
4	1.5	silty clay to clay
5	2	clayey silt to silty clay
6	2.5	sandy silt to clayey silt
7	3	silty sand to sandy silt
8	4	sand to silty sand
9	5	sand
10	6	gravelly sand to sand
11	1	very stiff fine grained *
12	2	sand to clayey sand *

* overconsolidated or cemented

Figure 1 Non-Normalized Behavior Type Classification Chart



Zone	Normalized Soil Behavior Type
1	sensitive fine grained
2	organic material
3	clay to silty clay
4	clayey silt to silty clay
5	silty sand to sandy silt
6	clean sands to silty sands
7	gravelly sand to sand
8	very stiff sand to clayey sand
9	very stiff fine grained

Figure 2 Normalized Behavior Type Classification Chart

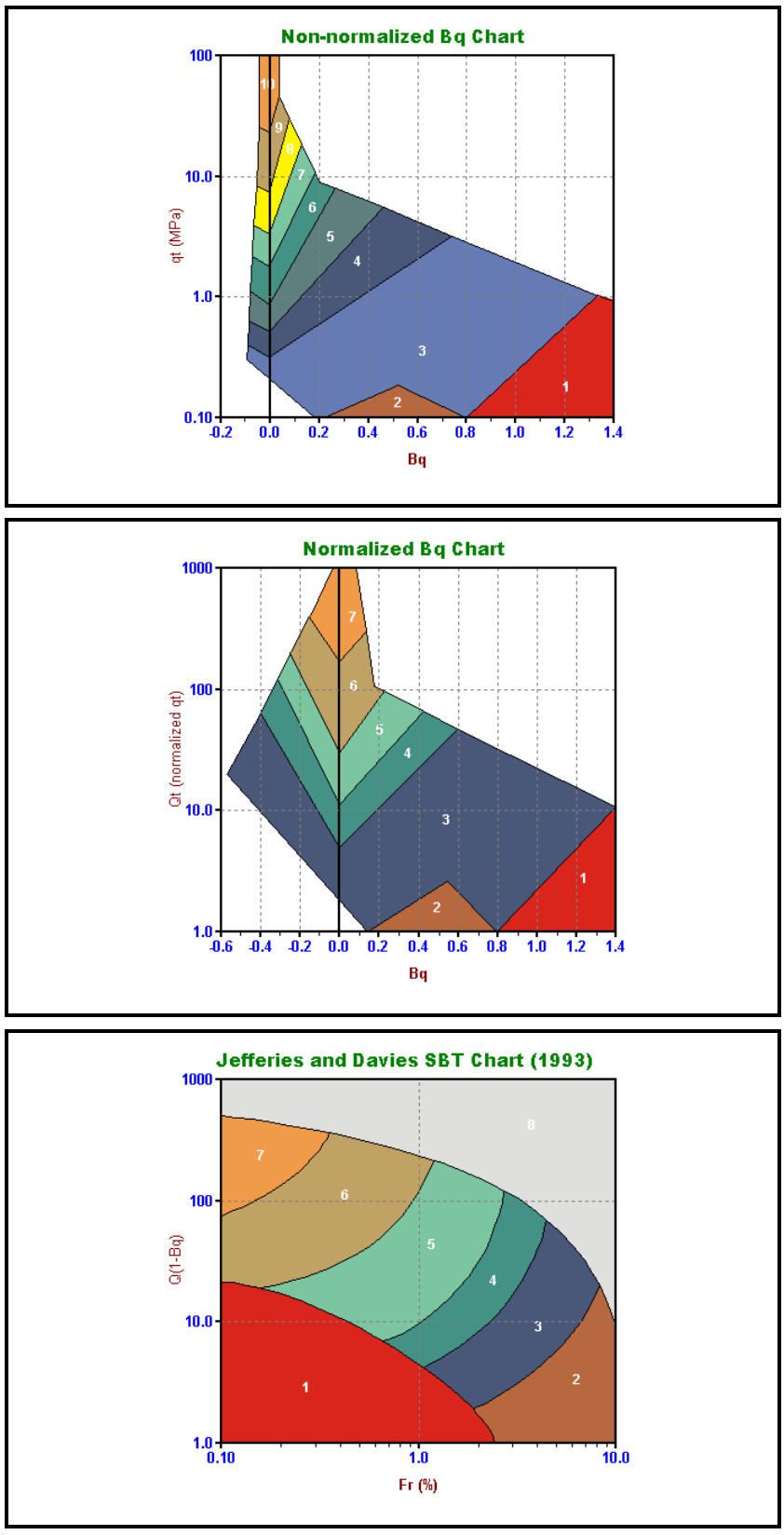


Figure 3 – Alternate Soil Behaviour Type Charts

Table 2 References

No.	References
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5	Lunne, T., Robertson, P.K. and Powell, J. J. M., 1997, " Cone Penetration Testing in Geotechnical Practice," Blackie Academic and Professional.
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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
105	2.550	8.366	-2.550	-8.366	60.260	3.492	-11.220	5.795	11	9	8	6	8	130.461	0.491	0.449	0.043	1.366	1.526	57.729	88.068	0.000	0.000	133.255	5.843	59.769	-0.007	-0.007	134.131	5.806	135.131	2.505	0.000	63.633	38.993	-0.780	2.250	135.660	0.000	0.000	0.000	0.000	8.807	88.068	88.068
106	2.600	8.530	-2.600	-8.530	61.236	3.446	-10.220	5.627	11	9	8	6	8	130.461	0.502	0.454	0.048	1.530	1.516	58.664	88.943	0.000	0.000	133.744	5.674	60.734	-0.006	-0.006	134.552	5.897	135.552	2.492	0.000	63.917	39.040	-0.739	2.242	137.340	0.000	0.000	0.000	0.000	8.894	88.943	88.943
107	2.650	8.694	-2.650	-8.694	66.534	2.923	-10.570	4.393	5	9	8	6	8	114.551	0.512	0.459	0.053	1.694	1.508	31.870	48.059	0.000	0.000	143.828	4.427	66.022	-0.006	-0.006	144.662	6.406	145.662	2.386	0.000	66.140	39.411	-0.532	2.180	145.087	0.000	0.000	0.000	0.000	9.612	96.118	96.118
108	2.700	8.858	-2.700	-8.858	72.034	2.433	-12.120	3.378	6	8	8	6	8	114.551	0.521	0.464	0.058	1.858	1.501	27.604	41.433	0.000	0.000	154.353	3.402	71.513	-0.006	-0.006	155.294	6.937	156.294	2.277	0.000	68.284	39.768	-0.428	2.126	153.217	0.000	0.000	0.000	0.000	10.358	103.583	103.583
109	2.750	9.022	-2.750	-9.022	66.272	2.208	-14.060	3.332	6	8	8	6	8	114.551	0.531	0.468	0.063	2.022	1.494	25.396	37.944	0.000	0.000	140.598	3.359	65.742	-0.008	-0.008	141.672	6.391	142.672	2.297	0.000	65.763	39.348	-0.412	2.190	145.182	0.000	0.000	0.000	0.000	9.486	94.860	94.860
110	2.800	9.186	-2.800	-9.186	56.651	2.315	-14.200	4.086	5	9	8	6	8	114.551	0.540	0.472	0.068	2.186	1.487	27.136	40.361	0.000	0.000	118.916	4.126	56.111	-0.009	-0.009	119.999	5.470	120.999	2.411	0.000	61.137	38.577	-0.465	2.330	132.071	0.000	0.000	0.000	0.000	8.072	80.721	80.721
111	2.850	9.350	-2.850	-9.350	50.945	2.567	-13.620	5.039	4	9	8	6	8	114.551	0.550	0.476	0.073	2.350	1.481	32.537	48.176	0.000	0.000	105.843	5.094	50.396	-0.010	-0.010	106.890	4.921	107.890	2.512	0.000	57.964	38.048	-0.575	2.447	124.713	0.000	0.000	0.000	0.000	7.226	72.264	72.264
112	2.900	9.514	-2.900	-9.514	52.344	2.337	-13.750	4.465	4	9	8	6	8	114.551	0.559	0.481	0.078	2.515	1.474	33.430	49.278	0.000	0.000	107.795	4.513	51.785	-0.010	-0.010	108.851	5.056	109.851	2.465	0.000	58.613	38.156	-0.495	2.422	126.818	0.000	0.000	0.000	0.000	7.392	73.917	73.917
113	2.950	9.678	-2.950	-9.678	78.144	1.316	-12.120	1.684	7	9	8	6	5	117.733	0.569	0.485	0.084	2.679	1.467	24.954	36.616	15.799	23.182	160.012	1.696	77.576	-0.006	-0.006	160.965	7.522	161.965	2.036	13.932	69.968	40.049	-0.292	2.087	163.192	0.000	0.000	0.000	0.000	10.985	109.848	109.848
114	3.000	9.842	-3.000	-9.842	117.113	0.973	-12.360	0.831	9	6	9	7	6	124.097	0.579	0.490	0.089	2.843	1.460	22.439	32.764	20.916	30.540	238.016	0.835	116.535	-0.004	-0.004	238.985	11.256	239.985	1.697	6.062	81.423	41.958	-0.252	1.881	220.426	0.000	0.000	0.000	0.000	16.382	163.818	163.818
115	3.050	10.006	-3.050	-10.006	130.116	0.929	-2.220	0.714	9	6	9	7	6	124.097	0.589	0.495	0.094	3.007	1.453	24.930	36.215	22.642	32.890	261.849	0.717	129.528	-0.001	-0.001	262.178	12.472	263.178	1.621	4.704	84.294	42.436	-0.246	1.896	246.857	0.000	0.000	0.000	0.000	18.107	181.075	181.075
116	3.100	10.170	-3.100	-10.170	144.071	1.124	-6.210	0.780	9	6	9	7	8	124.097	0.599	0.500	0.099	3.171	1.445	27.604	39.896	25.028	36.172	287.104	0.783	143.473	-0.002	-0.002	287.690	13.821	288.690	1.616	4.620	87.068	42.899	-0.263	2.033	293.072	0.000	0.000	0.000	0.000	19.948	199.478	199.478
117	3.150	10.335	-3.150	-10.335	152.283	1.282	-5.940	0.842	9	6	9	7	8	124.097	0.609	0.505	0.104	3.335	1.438	29.177	41.958	26.520	38.136	300.475	0.845	151.674	-0.002	-0.002	301.048	14.606	302.048	1.623	4.744	88.513	43.140	-0.274	0.000	0.000	0.000	0.000	0.000	0.000	20.979	209.789	209.789
118	3.200	10.499	-3.200	-10.499	152.708	1.369	-5.120	0.896	9	6	9	7	8	124.097	0.619	0.510	0.109	3.499	1.431	29.259	41.866	26.774	38.311	298.308	0.900	152.089	-0.002	-0.002	298.836	14.645	299.836	1.643	5.088	88.450	43.129	-0.280	0.000	0.000	0.000	0.000	0.000	0.000	20.933	209.328	209.328
119	3.250	10.663	-3.250	-10.663	163.267	1.160	-3.670	0.710	9	6	9	7	8	124.097	0.629	0.515	0.114	3.664	1.424	31.282	44.540	27.779	39.552	315.866	0.713	162.638	-0.001	-0.001	316.310	15.652	317.310	1.553	3.615	90.225	43.425	-0.262	0.000	0.000	0.000	0.000	0.000	0.000	22.270	222.701	222.701
120	3.300	10.827	-3.300	-10.827	169.778	1.200	-5.050	0.707	9	6	9	7	8	124.097	0.640	0.520	0.119	3.828	1.417	32.530	46.091	28.770	40.764	325.297	0.709	169.139	-0.002	-0.002	325.829	16.280	326.829	1.541	3.428	91.206	43.588	-0.264	0.000	0.000	0.000	0.000	0.000	0.000	23.045	230.453	230.453
121	3.350	10.991	-3.350	-10.991	170.278	1.246	-6.780	0.732	9	6	9	7	8	124.097	0.650	0.525	0.125	3.992	1.410	32.625	46.003	28.960	40.835	323.095	0.735	169.628	-0.002	-0.002	323.735	16.333	324.735	1.552	3.597	91.151	43.579	-0.267	0.000	0.000	0.000	0.000	0.000	0.000	23.002	230.015	230.015
122	3.400	11.155	-3.400	-11.155	168.650	1.422	-4.840	0.843	9	6	9	7	8	124.097	0.660	0.530	0.130	4.156	1.403	32.313	45.345	29.143	40.896	316.922	0.846	167.990	-0.002	-0.002	317.451	16.171	318.451	1.600	4.357	90.739	43.511	-0.279	0.000	0.000	0.000	0.000	0.000	0.000	22.673	226.727	226.727
123	3.450	11.319	-3.450	-11.319	162.225	1.346	-2.480	0.830	9	6	9	7	8	124.097	0.670	0.535	0.135	4.320	1.397	31.082	43.411	28.111	39.261	301.900	0.833	161.555	-0.001	-0.001	302.297	15.549	303.297	1.608	4.495	89.489	43.302	-0.273	0.000	0.000	0.000	0.000	0.000	0.000	21.706	217.056	217.056
124	3.500	11.483	-3.500	-11.483	160.648	1.248	-0.340	0.777	9	6	9	7	8	124.097	0.680	0.540	0.140	4.484	1.390	30.780	42.788	27.693	38.496	296.136	0.780	159.968	-0.001	-0.001	296.415	15.391	297.415	1.592	4.239	89.074	43.233	-0.265	0.000	0.000	0.000	0.000	0.000	0.000	21.394	213.938	213.938
125	3.550	11.647	-3.550	-11.647	159.102	1.192	0.390	0.749	9	6	9	7	8	124.097	0.691	0.545	0.145	4.648	1.384	30.484	42.179	27.368	37.867	290.536	0.752	158.412	-0.001	-0.001	290.780	15.241	291.780	1.586	4.135	88.664	43.165	-0.260	0.000	0.000	0.000	0.000	0.000	0.000	21.089	210.895	210.895
126	3.600	11.811	-3.600	-11.811	150.484	1.339	-2.620	0.890	9	6	9	7	8	124.097	0.701	0.551	0.150	4.813	1.377	28.833	39.710	26.510	36.512	272.186	0.894	149.783	-0.002	-0.002	272.607	14.424	273.607	1.657	5.334	86.935	42.877	-0.271	2.022	304.441	0.000	0.000	0.000	0.000	19.855	198.551	198.551
127	3.650	11.975	-3.650	-11.975	139.284	1.228	-0.940	0.882	9	6	9	7	8	124.097	0.711	0.556	0.155	4.977	1.371	26.687	36.587	24.728	33.902	249.522	0.886	138.574	-0.001	-0.001	249.855	13.346	250.855	1.680	5.743	84.587	42.485	-0.262	1.903	265.221	0.000	0.000	0.000	0.000	18.294	182.936	182.936
128	3.700	12.139	-3.700	-12.139	136.906	0.839	-0.640	0.613	9	6	9	7	6	124.097	0.721	0.561	0.160	5.141	1.365	26.231	35.800	23.514	32.091	243.009	0.616	136.185	-0.001	-0.001	243.331	13.118	244.331	1.581	4.061	83.964	42.381	-0.225	1.890	258.875	0.000	0.000	0.000	0.000	17.900	178.999	178.999
129	3.750	12.303	-3.750	-12.303	129.504	0.946	-5.830	0.730	9	6	9	7	6	124.097	0.731	0.566	0.166	5.305	1.359	24.813	33.712	22.766	30.931	227.727	0.735	128.773	-0.003	-0.003	228.341	12.424	229.341	1.651	5.224	82.242	42.094	-0.235	1.878	243.322	0.000	0.000	0.000	0.000	16.856	168.562	168.562
130	3.800	12.467	-3.800	-12.467	123.257	1.138	-5.320	0.923	8	6	9	7	6	120.915	0.741	0.571	0.171	5.469	1.353	29.520	39.934	22.316	30.189	214.790	0.929	122.516	-0.003	-0.003	215.381	11.824	216.381	1.737	6.819	80.700	41.837	-0.252	1.888	232.750	0.000	0.000	0.000	0.000	15.974	159.737	159.737
131	3.850	12.631	-3.850	-12.631	114.354	1.159	-2.580	1.014	8	6	9	7	6	120.915	0.751	0.575	0.176	5.633	1.347	27.388	36.895	21.094	28.417	197.504	1.020	113.603	-0.002	-0.002	197.949	10.963	198.949	1.789	7.898	78.431	41.459	-0.254	1.919	219.575	0.000	0.000	0.000	0.000	14.758	147.580	147.580
132	3.900	12.795	-3.900	-12.795	95.781	1.149	0.190	1.200	8	6	9	6	5	120.915	0.761	0.580	0.181	5.797	1.342	22.940	30.775	18.374	24.650	163.831	1.209	95.020	-0.002	-0.002	164.133	9.175	165.133	1.897	10.330	73.232	40.593	-0.254	2.018	193.404	0.000	0.000	0.000	0.000	12.310	123.098	123.098
133	3.950	12.959	-3.950	-12.959	96.447	1.126	4.370	1.167	8	6	9	6	5	120.915	0.771	0.585	0.186	5.962	1.336	23.099	30.861	18.441	24.638	163.609	1.177	95.677	-0.001	-0.001	163.694	9.227	164.694	1.888	10.116	73.313	40.606	-0.251	2.017	194.591	0.000	0.000	0.000	0.000	12.345	123.445	123.445
134	4.000	13.123	-4.000	-13.123	107.328	0.724	6.040	0.675	9	6	9	7	6	124.097	0.781	0.590	0.191	6.126	1.330	20.564	27.359	19.181	25.519	180.676	0.680	106.547	-0.000	-0.000	180.680	10.264	181.680	1.699	6.098	76.256	41.097	-0.207	1.959	210.308	0.000	0.000	0.000	0.000	13.680	136.796	136.796
135	4.050	13.287	-4.050	-13.287	103.705	0.592	7.130	0.571	9	6	9	7	6	124.097	0.791	0.595	0.196	6.290	1.325	19.870	26.323	18.342	24.299	173.031	0.575	102.914	0.000	0.000	172.986	9.914	173.986	1.669	5.542	75.150	40.912	-0.188	1.980	205.429	0.000	0.000	0.000	0.000	13.162	131.615	131.615
136	4.100	13.451	-4.100	-13.451	105.344	0.517	-5.780	0.491	9	6	9	7	6	124.097	0.801	0.600	0.201	6.454	1.319	20.184	26.626	18.370	24.233	174.288	0.495	104.543	-0.004	-0.004	174.924	10.109	175.924	1.627	4.810	75.478	40.967	-0.176	1.974	208.001	0.000	0.000	0.000	0.000	13.313	133.131	133.131
137	4.150	13.615	-4.150	-13.615	103.723	0.587	-4.360	0.566	9	6	9	6	6	124.097	0.812	0.605	0.207	6.618	1.314	19.873	26.107	18.350	24.105	170.134	0.570	102.911	-0.003	-0.003	170.700	9.950	171.700	1.669	5.555	74.913	40.873	-0.186	1.985	205.948	0.000	0.000	0.000	0.000	13.053	130.533	130.533
138	4.200	13.779	-4.200	-13.779	106.446	0.642	0.960	0.603	9	6	9	6	6	124.097	0.822	0.610	0.212	6.782	1.308	20.395	26.681	18.887	24.708	173.171	0.608	105.624	-0.002	-0.002	173.469	10.195	174.469	1.678	5.713	75.536	40.977	-0.193	1.973	210.056	0.000	0.000	0.000	0.000	13.340	133.404	133.404
139	4.250	13.943	-4.250	-13.943	111.109	0.772	3.070	0.695	9	6	9	7	6	124.097	0.832	0.615	0.217	6.946	1.303	21.289	27.735	19.880	25.900	179.313	0.700	110.277	-0.001	-0.001	179.509	10.635	180.509	1.702	6.162	76.647	41.162	-0.209	1.951	216.895	0.000	0.000	0.000	0.000	13.867	138.674	138.674
140	4.300	14.107	-4.300	-14.107	113.053	0.914	3.740	0.808	9	6	9	7	6	124.097	0.842	0.620	0.222	7.110	1.297	21.661	28.105	20.493	26.589	180.969	0.815	112.211	-0.001	-0.001	181.139	10.819	182.139	1.740	6.887	77.027	41.225	-0.224	1.944	219.890	0.000	0.000	0.000	0.000	14.052	140.524	140.524
141	4.350	14.271	-4.350	-14.271	113.322	0.976	5.090	0.861	8	6	9	7	6	120.915	0.852	0.625	0.227	7.275	1.292	27.141	35.075	20.676	26.720	179.956	0.868	112.470	-0.001	-0.001	180.065	10.841	181.065	1.758	7.257	76.981	41.218	-0.229	1.945	220.507	0.000	0.000	0.000	0.000	14.030	140.301	140.301
142	4.400	14.436	-4.400	-14.436	115.118	0.961	6.090	0.835	9	6	9	7	6	124.097	0.862	0.630	0.232	7.439	1.287	22.057	28.393	20.909	26.916	181.384	0.841	114.256	-0.000	-0.000	181.451	11.010	182.451	1.746	7.000	77.320	41.274	-0.227	1.939	223.287	0.000	0.000	0.000	0.000	14.197	141.967	141.967
143	4.450	14.600	-4.450	-14.600	118.293	0.977	6.910	0.826	9	6	9	7	6	124.097	0.872	0.635	0.237	7.603	1.282	22.665	29.060	21.406	27.446	184.924	0.832	117.421	-0.000	-0.000	184.958	11.312	185.958	1.735	6.789	77.985	41.385	-0.228	1.927	228.041	0.000	0.000	0.000	0.000	14.530	145.300	145.300
144	4.500	14.764	-4.500	-14.764	123.096	1.022	7.390	0.830	9	6	9	7	6	124.097	0.883	0.640	0.242	7.767	1.277	23.585	30.120	22.196	28.346	190.951	0.836	122.214	-0.000	-0.000	190.969	11.771	191.969	1.725	6.589	79.012	41.556	-0.231	1.910	235.201	0.000	0.000	0.000	0.000	15.060	150.601	150.601
145	4.550	14.928	-4.550	-14.928	125.977	1.085	7.580	0.861	9	6	9	7	6	124.097	0.893	0.645	0.248	7.931	1.272	24.137	30.704	22.750	28.939	193.905	0.867	125.085	-0.000	-0.000	193.921	12.046	194.921	1.729	6.674	79.562	41.648	-0.236	1.902	239.667	0.000	0.000	0.000	0.000	15.352	153.521	153.521
146	4.600	15.092	-4.600	-15.092	125.887	1.126	7.560	0.894	9	6	9	7	6	124.097	0.903	0.650	0.253	8.095	1.267	24.120	30.563	22.833	28.932	192.242	0.901	124.985	-0.000	-0.000	192.268	12.037	193.268	1.742	6.920	79.430	41.626	-0.239	1.904	239.737	0.000	0.000	0.000	0.000	15.281	152.813	152.813
147	4.650	15.256	-4.650	-15.256	124.348	1.115	7.720	0.897	9	6	9	7	6	124.097	0.913	0.655	0.258	8.259	1.262	23.825	30.072	22.601	28.527	188.394	0.903	123.435	-0.000	-0.000	188.419	11.989	189.419	1.748	7.039	78.966	41.548	-0.237	1.911	237.683	0.000	0.000	0.000	0.000	15.036	150.361	150.361
148	4.700	15.420	-4.700	-15.420	125.691	1.114	8.130	0.897	9	6	9	7	6	124.097	0.923	0.660	0.263	8.423	1.257	24.168	30.286	22.900	28.668	188.992	0.893	124.785	-0.000	-0.000	188.982	12.017	189.982	1.752	6.927	79.164	41.581	-0.238	1.908	239.083	0.000	0.000	0.000	0.000	15.140	151.401	151.401
149	4.750	15.584	-4.750	-15.584	128.911	1.116	8.230	0.866	9	6	9	7	6	124.097	0.934	0.666	0.268	8.588	1.253	24.699	30.938	23.272	29.150	192.358	0.872	127.978	-0.000	-0.000	192.374	12.325	193.374	1.728	6.656	79.780	41.684	-0.236	1.899	244.858	0.000	0.000	0.000	0.000	15.469	154.689	154.689
150	4.800	15.748	-4.800	-15.748	132.704	1.142	8.710	0.861	9	6	9	7	6	124.097	0.944	0.671	0.273	8.752	1.248	25.426	31.728	23.875	29.792	196.549	0.867	131.761	-0.000	-0.000	196.551	12.687	197.551	1.718	6.465	80.502	41.805	-0.237	1.890	250.870	0.000	0.000	0.000	0.000	15.864	158.639	158.639
151	4.850	15.912	-4.850	-15.912	137.456	1.178	9.020	0.857	9	6	9	7	6	124.097	0.954	0.676	0.278	8.916	1.243	26.337	32.741	24.633	30.623	202.098	0.863	136.503	0.000	0.000	202.093	13.141	203.093	1.707	6.249	81.403	41.955	-0.239	1.882	258.734	0.000	0.000	0.000	0.000	16.370	163.703	163.703
152	4.900	16.076	-4.900	-16.076	142.798	1.199	9.230	0.840	9	6	9	7	6	124.097	0.964	0.681	0.283	9.080	1.239	27.360	33.886	25.440	31.508	208.430	0.845	141.834	0.000	0.000	208.423	13.652	209.423	1.690	5.929	82.389	42.119	-0.240	1.878	268.288	0.000	0.000	0.000	0.000	16.943	169.432	169.432
153	4.950	16.240	-4.950	-16.240	139.158	1.141	9.220	0.820	9	6	9	7	6	124.097	0.974	0.686	0.288	9.244	1.234	26.663	32.900	24.813	30.619	201.568	0.826	138.184	-0.000	-0.000	201.569	13.304	202.569	1.692	5.977	81.543	41.978	-0.235	1.881	261.813	0.000	0.000	0.000	0.000	16.450	164.502	164.502
154	5.000	16.404	-5.000	-16.404	131.637	1.034	9.140	0.785	9	6	9	7	6	124.097	0.984	0.691	0.294	9.408	1.229	25.222	31.008	23.529	28.927	189.187	0.791	130.653	-0.000	-0.000	189.199	12.583	190.199	1.699	6.107	79.845	41.695	-0.225	1.898	249.919	0.000	0.000	0.000	0.000	15.504	155.041	155.041
155	5.050	16.568	-5.050	-16.568	123.220	1.091	6.420	0.885	9	6	9	7	6	124.097	0.995	0.696	0.299	9.573	1.225	23.609	28.920	22.468	27.522	175.698	0.893	122.226	-0.001	-0.001	175.839	11.785	176.839	1.757	7.223	77.846	41.362	-0.230	1.929	237.838	0.000	0.000	0.000	0.000	14.460	144.599	144.599
156	5.100	16.732	-5.100	-16.732	115.966	1.029	5.800	0.887	8	6	9	6	6	120.915	1.005	0.701	0.304	9.737	1.221	27.772	33.899	21.307	26.008	164.080	0.895	114.952	-0.001	-0.001	164.255	11.091	165.255	1.778	7.668	76.004	41.055	-0.224	1.964	227.776	0.000	0.000	0.000	0.000	13.560	135.596	135.596
157	5.150	16.896	-5.150	-16.896	102.592	0.961	6.680	0.937	8	6	9	6	6	120.915	1.015	0.706	0.309	9.901	1.216	24.571	29.890	19.240	23.405	144.004	0.946	101.577	-0.001	-0.001	144.146	9.808	145.146	1.836	8.896	72.396	40.453	-0.217	2.036	208.917	0.000	0.000	0.000	0.000	11.956	119.559	119.559
158	5.200	17.060	-5.200	-17.060	85.558	0.902	7.670	1.054	8	6	9	6	5	120.915	1.025	0.710	0.314	10.065	1.212	20.491	24.843	16.616	20.145	119.032	1.067	84.534	-0.001	-0.001	119.137	8.174	120.137	1.931	11.142	67.094	39.570	-0.210	2.155	184.470	0.000	0.000	0.000	0.000	9.937	99.371	99.371
159	5.250	17.224	-5.250	-17.224	70.648	0.718	8.620	1.004	8	6	9	6	5	120.915	1.035	0.715	0.319	10.229	1.208	16.958	20.498	14.025	16.946	97.584	1.109	69.770	-0.001	-0.001	97.955	6.757	98.955	1.992	12.284	61.573	38.650	-0.187	2.316	164.022	0.000	0.000	0.000	0.000	8.196	81.959	81.959
160	5.300	17.388	-5.300	-17.388	64.599	0.592	12.580	0.916	8	6	9	6	5	120.915	1.044	0.720	0.324	10.393	1.204	15.473	18.632	12.840	15.463	88.298	0.933	63.555	0.001	0.001	88.503	6.151	89.203	1.992	12.725	58.848	38.195	-0.169	2.413	155.929	0.000	0.000	0.000	0.000	7.453	74.526	74.526
161	5.350	17.552	-5.350	-17.552	67.121	0.582	19.380	0.867	8	6	8	6	6	120.915	1.054	0.725	0.329	10.557	1.200	16.075	19.295	13.207	15.851	91.181	0.881	66.067	0.004	0.004	90.801	6.372	91.801	1.965	12.022	59.850	38.363	-0.167	2.376	159.518	0.000	0.000	0.000	0.000	7.718	77.179	77.179
162	5.400	17.716	-5.400	-17.716	75.799	0.541	25.500	0.714	8	6	8	6	6	120.915	1.064	0.730	0.335	10.722	1.196	18.154	21.718	14.413	17.243	102.467	0.724	74.735	0.006	0.006	101.834	7.185	102.834	1.874	9.764	63.241	38.928	-0.160	2.262	171.544	0.000	0.000	0.000	0.000	8.687	86.871	86.871
163	5.450	17.880	-5.450	-17.880	84.142	0.506	26.000	0.601	8	6	8	6	6	120.915	1.074	0.734	0.340	10.886	1.192	20.152	24.029	15.551	18.543	113.148	0.609	83.069	0.006	0.006	112.505	7.983	113.505	1.795	8.010	66.140	39.411	-0.154	2.180	183.485	0.000	0.000	0.000	0.000	9.612	96.117	96.117
164	5.500	18.044	-5.500	-18.044	89.046	0.547	20.260	0.614	8	6	9	6	6	120.915	1.084	0.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
209	7.750	25.426	-7.750	-25.426	109.933	5.854	13.320	5.325	11	9	9	6	8	130.461	1.535	0.960	0.575	18.436	1.043	105.316	109.855	0.000	0.000	112.990	5.400	108.399	-0.001	-0.001	113.156	10.492	114.156	2.420	0.000	69.969	40.049	-0.641	2.119	233.042	0.000	0.000	0.000	0.000	10.985	109.855	109.855
210	7.800	25.590	-7.800	-25.590	105.301	5.572	5.010	5.291	11	9	9	6	8	130.461	1.546	0.965	0.580	18.600	1.040	100.879	104.922	0.000	0.000	107.526	5.370	103.756	-0.004	-0.004	107.965	10.073	108.965	2.430	0.000	68.652	39.830	-0.626	2.151	226.570	0.000	0.000	0.000	0.000	10.492	104.922	104.922
211	7.850	25.754	-7.850	-25.754	88.726	4.973	-7.070	5.605	11	9	9	6	8	130.461	1.556	0.971	0.586	18.764	1.037	84.999	88.152	0.000	0.000	89.818	5.705	87.170	-0.009	-0.009	90.648	8.521	91.648	2.496	0.000	63.661	38.998	-0.655	2.286	202.924	0.000	0.000	0.000	0.000	8.815	88.152	88.152
212	7.900	25.918	-7.900	-25.918	88.983	4.799	-1.120	5.393	11	9	9	6	8	130.461	1.567	0.977	0.591	18.928	1.034	85.246	88.154	0.000	0.000	89.557	5.490	87.416	-0.007	-0.007	90.197	8.528	91.197	2.483	0.000	63.661	38.998	-0.610	2.287	203.607	0.000	0.000	0.000	0.000	8.815	88.154	88.154
213	7.950	26.082	-7.950	-26.082	120.753	4.667	48.460	3.865	6	8	9	6	8	114.551	1.577	0.981	0.596	19.093	1.032	46.272	47.731	0.000	0.000	121.481	3.916	119.176	0.008	0.008	120.546	11.423	121.546	2.286	0.000	72.340	40.444	-0.443	2.070	250.098	0.000	0.000	0.000	0.000	11.933	119.327	119.327
214	8.000	26.246	-8.000	-26.246	144.124	6.087	138.390	4.223	11	9	9	6	8	130.461	1.587	0.986	0.601	19.257	1.029	138.071	142.066	0.000	0.000	144.568	4.270	142.537	0.026	0.026	140.796	13.393	141.796	2.272	0.000	77.340	41.277	-0.508	1.967	283.652	0.000	0.000	0.000	0.000	14.207	142.066	142.066
215	8.050	26.410	-8.050	-26.410	150.366	7.424	7.290	4.937	11	9	9	6	8	130.461	1.598	0.992	0.606	19.421	1.026	144.050	147.801	0.000	0.000	150.038	4.990	148.768	-0.003	-0.003	150.420	14.383	151.420	2.317	0.000	78.474	41.466	-0.624	1.947	292.819	0.000	0.000	0.000	0.000	14.780	147.801	147.801
216	8.100	26.574	-8.100	-26.574	116.257	7.511	9.200	6.461	11	9	9	6	8	130.461	1.609	0.998	0.611	19.585	1.023	111.375	113.954	0.000	0.000	114.981	6.551	114.649	-0.003	-0.003	115.306	11.110	116.306	2.479	0.000	71.020	40.224	-0.975	2.102	244.474	0.000	0.000	0.000	0.000	11.395	113.954	113.954
217	8.150	26.739	-8.150	-26.739	92.671	6.895	12.990	7.440	11	9	9	6	8	130.461	1.619	1.003	0.616	19.749	1.020	88.779	90.582	0.000	0.000	90.808	7.573	91.052	-0.002	-0.002	91.018	8.839	92.018	2.588	0.000	64.440	39.127	-1.593	2.269	210.371	0.000	0.000	0.000	0.000	9.058	90.582	90.582
218	8.200	26.903	-8.200	-26.903	71.295	5.674	4.040	7.958	11	9	8	6	8	130.461	1.630	1.009	0.621	19.913	1.017	68.301	69.495	0.000	0.000	69.094	8.145	69.666	-0.007	-0.007	69.585	6.818	70.585	2.683	0.000	56.844	37.861	-2.494	2.539	181.112	0.000	0.000	0.000	0.000	6.950	69.495	69.094
219	8.250	27.067	-8.250	-27.067	63.539	4.838	-9.730	7.614	11	9	9	6	8	130.461	1.641	1.014	0.627	20.077	1.015	60.871	61.764	0.000	0.000	61.053	7.816	61.899	-0.015	-0.015	61.971	6.116	62.971	2.702	0.000	53.464	37.298	-1.686	2.690	170.997	0.000	0.000	0.000	0.000	6.176	61.764	61.053
220	8.300	27.231	-8.300	-27.231	77.723	4.715	-4.290	6.066	11	9	8	6	8	130.461	1.652	1.020	0.632	20.242	1.012	74.459	75.345	0.000	0.000	74.622	6.198	76.072	-0.010	-0.010	75.373	7.459	76.373	2.566	0.000	59.161	38.248	-0.729	2.449	190.451	0.000	0.000	0.000	0.000	7.535	75.345	75.345
221	8.350	27.395	-8.350	-27.395	87.645	5.577	0.870	6.363	11	9	9	6	8	130.461	1.662	1.025	0.637	20.406	1.009	83.964	84.732	0.000	0.000	83.886	6.486	85.984	-0.007	-0.007	84.480	8.394	85.480	2.551	0.000	62.527	38.809	-0.853	2.332	204.508	0.000	0.000	0.000	0.000	8.473	84.732	84.732
222	8.400	27.559	-8.400	-27.559	86.168	6.500	-0.260	7.543	11	9	9	6	8	130.461	1.673	1.031	0.642	20.570	1.006	82.549	83.078	0.000	0.000	81.988	7.693	84.496	-0.008	-0.008	82.619	8.256	83.619	2.619	0.000	61.962	38.714	-1.690	2.352	202.753	0.000	0.000	0.000	0.000	8.308	83.078	81.988
223	8.450	27.723	-8.450	-27.723	79.063	5.844	-2.790	7.392	11	9	8	6	8	130.461	1.684	1.037	0.647	20.734	1.004	75.742	76.022	0.000	0.000	74.679	7.552	77.380	-0.009	-0.009	75.387	7.583	76.387	2.637	0.000	59.417	38.290	-1.468	2.443	193.239	0.000	0.000	0.000	0.000	7.602	76.022	74.679
224	8.500	27.887	-8.500	-27.887	82.339	5.245	-0.230	6.370	11	9	9	6	8	130.461	1.694	1.042	0.652	20.898	1.001	78.880	78.960	0.000	0.000	77.413	6.504	80.645	-0.008	-0.008	78.046	7.889	79.046	2.570	0.000	60.504	38.471	-0.835	2.404	198.063	0.000	0.000	0.000	0.000	7.896	78.960	78.960
225	8.550	28.051	-8.550	-28.051	90.395	5.117	-5.630	5.661	11	9	9	6	8	130.461	1.705	1.048	0.657	21.062	0.998	86.598	86.454	0.000	0.000	84.683	5.770	88.691	-0.009	-0.009	85.478	8.677	86.478	2.505	0.000	63.103	38.905	-0.655	2.318	209.660	0.000	0.000	0.000	0.000	8.645	86.454	86.454
226	8.600	28.215	-8.600	-28.215	74.798	5.394	-6.680	7.211	11	9	8	6	8	130.461	1.716	1.053	0.662	21.226	0.996	71.657	71.348	0.000	0.000	69.411	7.381	73.083	-0.012	-0.012	70.238	7.186	71.238	2.648	0.000	57.598	37.987	-1.270	2.518	188.387	0.000	0.000	0.000	0.000	7.135	71.348	69.411
227	8.650	28.379	-8.650	-28.379	116.554	6.789	8.620	5.825	11	9	9	6	8	130.461	1.726	1.059	0.668	21.391	0.993	111.659	110.883	0.000	0.000	108.483	5.912	114.828	-0.003	-0.003	108.859	11.140	109.859	2.449	0.000	70.237	40.094	-0.748	2.131	248.424	0.000	0.000	0.000	0.000	11.088	110.883	110.883
228	8.700	28.543	-8.700	-28.543	188.409	8.578	17.390	4.553	11	9	9	7	8	130.461	1.737	1.065	0.673	21.555	0.990	180.495	178.772	0.000	0.000	175.433	4.595	186.672	-0.001	-0.001	175.555	17.998	176.555	2.242	0.000	83.927	42.375	-0.589	1.915	361.001	0.000	0.000	0.000	0.000	17.877	178.772	178.772
229	8.750	28.707	-8.750	-28.707	171.419	9.679	-0.160	5.646	11	9	9	6	8	130.461	1.748	1.070	0.678	21.719	0.988	164.219	162.226	0.000	0.000	158.624	5.705	169.672	-0.004	-0.004	159.262	16.422	160.262	2.344	0.000	81.143	41.911	-0.785	1.916	328.563	0.000	0.000	0.000	0.000	16.223	162.226	162.226
230	8.800	28.871	-8.800	-28.871	124.491	7.845	-4.700	6.302	11	9	9	6	8	130.461	1.759	1.076	0.683	21.883	0.985	119.262	117.509	0.000	0.000	114.146	6.392	122.733	-0.007	-0.007	114.917	11.940	115.917	2.462	0.000	71.900	40.371	-0.911	2.096	261.039	0.000	0.000	0.000	0.000	11.751	117.509	117.509
231	8.850	29.035	-8.850	-29.035	101.419	5.870	-6.620	5.788	11	9	9	6	8	130.461	1.769	1.081	0.688	22.047	0.983	97.159	95.483	0.000	0.000	92.200	5.891	99.650	-0.009	-0.009	93.027	9.736	94.027	2.486	0.000	65.951	39.379	-0.703	2.241	227.417	0.000	0.000	0.000	0.000	9.548	95.483	95.483
232	8.900	29.199	-8.900	-29.199	76.538	4.608	-14.810	6.021	11	9	8	6	8	130.461	1.780	1.087	0.693	22.211	0.980	73.323	71.873	0.000	0.000	68.814	6.164	74.758	-0.015	-0.015	69.877	7.377	70.877	2.577	0.000	57.809	38.022	-0.699	2.516	192.648	0.000	0.000	0.000	0.000	7.187	71.873	71.873
233	8.950	29.363	-8.950	-29.363	77.108	3.448	-1.980	4.472	5	4	8	6	8	114.551	1.790	1.092	0.698	22.375	0.978	36.935	36.122	18.825	18.411	69.016	4.578	75.318	-0.010	-0.010	69.713	7.393	70.713	2.476	29.642	57.957	38.047	-0.427	2.511	193.704	0.000	0.000	0.000	0.000	7.224	72.245	72.245
234	9.000	29.527	-9.000	-29.527	120.833	4.532	-1.130	3.751	6	8	9	6	8	114.551	1.799	1.096	0.703	22.539	0.976	46.303	45.197	0.000	0.000	108.649	3.807	119.034	-0.006	-0.006	109.323	11.579	110.323	2.291	0.000	70.776	40.183	-0.418	2.125	256.846	0.000	0.000	0.000	0.000	11.299	112.991	112.991
235	9.050	29.691	-9.050	-29.691	129.229	6.196	20.650	4.795	11	9	9	6	8	130.461	1.809	1.101	0.708	22.704	0.974	123.801	120.572	0.000	0.000	115.783	4.863	127.420	-0.000	-0.000	115.840	12.318	116.840	2.359	0.000	72.638	40.494	-0.554	2.084	269.426	0.000	0.000	0.000	0.000	12.057	120.572	120.572
236	9.100	29.855	-9.100	-29.855	160.062	7.298	19.480	4.559	11	9	9	6	8	130.461	1.820	1.107	0.714	22.868	0.971	153.339	148.962	0.000	0.000	143.064	4.612	158.242	-0.001	-0.001	143.160	15.276	144.160	2.287	0.000	78.698	41.504	-0.556	1.958	313.481	0.000	0.000	0.000	0.000	14.896	148.962	148.962
237	9.150	30.019	-9.150	-30.019	146.219	7.223	6.320	4.940	11	9	9	6	8	130.461	1.831	1.112	0.719	23.032	0.969	140.078	135.738	0.000	0.000	129.885	5.002	144.389	-0.004	-0.004	130.354	13.989	131.354	2.339	0.000	76.034	41.060	-0.599	2.012	294.371	0.000	0.000	0.000	0.000	13.574	135.738	135.738
238	9.200	30.183	-9.200	-30.183	107.054	6.643	-5.750	6.205	11	9	9	6	8	130.461	1.842	1.118	0.724	23.196	0.967	102.558	99.131	0.000	0.000	94.172	6.314	105.213	-0.008	-0.009	94.980	10.273	95.980	2.501	0.000	67.025	39.558	-0.829	2.220	237.718	0.000	0.000	0.000	0.000	9.913	99.131	99.131
239	9.250	30.347	-9.250	-30.347	81.716	5.723	-3.780	7.003	11	9	9	6	8	130.461	1.852	1.123	0.729	23.360	0.964	78.284	75.481	0.000	0.000	71.128	7.166	79.865	-0.010	-0.011	71.882	7.840	72.882	2.631	0.000	59.212	38.256	-1.123	2.469	201.803	0.000	0.000	0.000	0.000	7.548	75.481	71.128
240	9.300	30.511	-9.300	-30.511	68.157	5.276	4.330	7.741	11	9	8	6	8	130.461	1.863	1.129	0.734	23.524	0.962	65.294	62.800	0.000	0.000	58.751	7.958	66.295	-0.009	-0.009	59.281	6.516	60.281	2.719	0.000	53.941	37.378	-1.898	2.693	183.598	0.000	0.000	0.000	0.000	6.280	62.800	58.751
241	9.350	30.675	-9.350	-30.675	52.806	4.585	-3.920	8.683	0	0	3	8	6	118.624	1.873	1.134	0.739	23.688	0.960	50.588	48.546	15.501	13.769	44.934	9.002	50.933	-0.016	-0.017	45.694	5.070	46.694	2.834	47.974	0.000	0.000	0.000	0.000	0.000	3.397	0.000	10.000	4.855	48.546	44.934
242	9.400	30.840	-9.400	-30.840	54.137	3.810	-5.360	7.038	3	3	8	6	8	111.369	1.883	1.138	0.744	23.853	0.958	51.863	49.675	15.237	13.493	45.926	7.291	52.255	-0.017	-0.017	46.726	5.202	47.726	2.758	43.613	0.000	0.000	0.000	0.000	0.000	3.485	0.000	10.000	4.967	49.675	45.926
243	9.450	31.004	-9.450	-31.004	40.300	2.861	-9.570	7.099	3	3	8	5	8	111.369	1.892	1.142	0.749	24.017	0.956	38.608	36.914	11.975	10.434	33.638	7.449	38.409	-0.026	-0.027	34.556	3.889	35.556	2.855	49.254	0.000	0.000	0.000	0.000	0.000	2.562	0.000	10.000	3.691	36.914	33.638
244	9.500	31.168	-9.500	-31.168	29.478	2.280	-11.500	7.735	3	3	7	5	8	111.369	1.901	1.146	0.755	24.181	0.954	28.240	26.954	9.483	8.082	24.068	8.267	27.578	-0.038	-0.040	25.040	2.858	26.040	2.988	57.705	0.000	0.000	0.000	0.000	0.000	1.839	0.000	9.488	2.695	26.954	24.068
245	9.550	31.332	-9.550	-31.332	39.170	2.922	-9.670	7.460	3	3	8	5	8	111.369	1.910	1.150	0.760	24.345	0.953	37.525	35.753	11.825	10.212	32.404	7.842	37.260	-0.027	-0.028	33.327	3.781	34.327	2.883	50.925	0.000	0.000	0.000	0.000	0.000	2.485	0.000	10.000	3.575	35.753	32.404
246	9.600	31.496	-9.600	-31.496	111.386	4.363	26.520	3.917	5	9	9	6	8	114.551	1.919	1.154	0.765	24.509	0.951	53.354	50.743	0.000	0.000	94.859	3.986	109.467	0.001	0.001	94.804	10.591	95.804	2.336	0.000	67.698	39.670	-0.414	2.209	246.168	0.000	0.000	0.000	0.000	10.149	101.487	101.487
247	9.650	31.660	-9.650	-31.660	95.839	5.854	4.660	6.108	11	9	9	6	8	130.461	1.929	1.159	0.770	24.673	0.949	91.814	87.136	0.000	0.000	81.032	6.234	93.911	-0.007	-0.007	81.571	9.167	82.571	2.530	0.000	63.328	38.942	-0.761	2.333	223.710	0.000	0.000	0.000	0.000	8.714	87.136	87.136
248	9.700	31.824	-9.700	-31.824	90.268	6.424	47.690	7.117	11	9	9	6	8	130.461	1.940	1.165	0.775	24.837	0.947	86.476	81.874	0.000	0.000	75.851	7.273	88.328	0.008	0.008	75.238	8.505	76.238	2.619	0.000	61.543	38.645	-1.217	2.393	216.084	0.000	0.000	0.000	0.000	8.187	81.874	75.851
249	9.750	31.988	-9.750	-31.988	91.194	6.476	108.010	7.101	11	9	8	6	8	130.461	1.951	1.171	0.780	25.002	0.945	87.364	82.517	0.000	0.000	76.272	7.256	89.244	0.028	0.029	74.057	8.413	75.057	2.617	0.000	61.767	38.682	-1.198	2.386	217.707	0.000	0.000	0.000	0.000	8.252	82.517	76.272
250	9.800	32.152	-9.800	-32.152	98.885	6.379	257.070	6.451	11	9	8	6	8	130.461	1.961	1.176	0.785	25.166	0.942	94.732	89.263	0.000	0.000	82.442	6.581	96.924	0.073	0.075	76.285	8.704	77.285	2.542	0.000	64.020	39.057	-0.857	2.315	229.038	0.000	0.000	0.000	0.000	8.926	89.263	89.263
251	9.850	32.316	-9.850	-32.316	109.842	6.906	363.930	6.287	11	9	7	6	8	130.461	1.972	1.182	0.790	25.330	0.940	105.229	98.919	0.000	0.000	91.320	6.402	107.871	0.092	0.098	82.372	9.435	83.372	2.506	0.000	66.964	39.548	-0.816	2.233	245.404	0.000	0.000	0.000	0.000	9.892	98.919	98.919
252	9.900	32.480	-9.900	-32.480	98.430	7.113	98.430	7.762	11	9	9	6	8	130.461	1.982	1.187	0.795	25.494	0.938	98.438	93.276	0.000	0.000	83.270	7.407	96.452	0.010	0.011	82.403	9.329	83.754	2.326	59.013	0.000	0.000	0.000	0.000	0.000	3.229	0.000	10.000	3.844	98.438	81.270
253	9.950	32.644	-9.950	-32.644	89.944	5.438	47.100	6.046	11	9	9	6	8	130.461	1.994	1.193	0.801	25.658	0.936	86.166	80.620	0.000	0.000	73.760	6.183	87.951	0.007	0.008	73.198	8.476	74.198	2.547	0.000	61.101	38.571	-0.717	2.414	217.188	0.000	0.000	0.000	0.000	8.062	80.620	80.620
254	10.000	32.808	-10.000	-32.808	87.620	5.415	123.290	6.180	11	9	9	6	8	130.461	2.004	1.198	0.806	25.822	0.933	83.940	78.354	0.000	0.000	71.467	6.325	85.616	0.035	0.036	68.927	8.025	69.927	2.563	0.000	60.283	38.435	-0.740	2.444	214.230	0.000	0.000	0.000	0.000	7.835	78.354	78.354
255	10.050	32.972	-10.050	-32.972	85.659	5.546	41.470	6.475	11	9	9	6	8	130.461	2.015	1.204	0.811	25.986	0.931	82.061	76.423	0.000	0.000	69.498	6.630	83.645	0.006	0.006	69.096	8.082	70.096	2.611	0.000	59.568	38.315	-0.843	2.472	211.799	0.000	0.000	0.000	0.000	7.642	76.423	69.498
256	10.100	33.136	-10.100	-33.136	80.238	5.818	10.840	7.251	11	9	9	6	8	130.461	2.026	1.210	0.816	26.151	0.929	76.868	71.421	0.000	0.000	64.685	7.439	78.213	-0.006	-0.006	65.079	7.654	66.079	2.670	0.000	57.628	37.992	-1.282	2.549	204.593	0.000	0.000	0.000	0.000	7.142	71.421	64.685
257	10.150	33.300	-10.150	-33.300	88.128	5.989	36.490	6.796	11	9	9	6	8	130.461	2.036	1.215	0.821	26.315	0.927	84.426	78.263	0.000	0.000	70.874	6.956	86.092	0.004	0.004	70.612	8.334	71.612	2.622	0.000	60.250	38.429	-0.995	2.449	215.877	0.000	0.000	0.000	0.000	7.826	78.263	70.874
258	10.200	33.464	-10.200	-33.464	94.101	6.494	17.750	6.901	11	9	9	6	8	130.461	2.047	1.221	0.826	26.479	0.925	90.149	83.376	0.000	0.000	75.436	7.055	92.055	-0.003	-0.003	75.659	8.962	76.659	2.610	0.000	62.064	38.731	-1.076	2.386	224.646	0.000	0.000	0.000	0.000	8.338	83.376	75.436
259	10.250	33.628	-10.250	-33.628	94.730	6.960	4.730	7.347	11	9	9	6	8	130.461	2.058	1.226	0.831	26.643	0.923	90.751	83.742	0.000	0.000	75.597	7.510	92.673	-0.007	-0.007	76.154	9.061	77.154	2.631	0.000	62.190	38.752	-1.429	2.383	225.855	0.000	0.000	0.000	0.000	8.374	83.742	75.597
260	10.300	33.792	-10.300	-33.792	91.330	6.710	32.100	7.347	11	9	9	6	8	130.461	2.069	1.232	0.837	26.807	0.921	87.495	80.554	0.000	0.000	72.485	7.517	89.263	0.002	0.002	72.351	8.653	73.351	2.643	0.000	61.077	38.567	-1.409	2.422	221.327	0.000	0.000	0.000	0.000	8.055	80.554	72.485
261	10.350	33.956	-10.350	-33.956	106.463	6.250	299.980	5.871	11	9	8	6	8	130.461	2.079	1.238	0.842	26.971	0.919	101.991	93.689	0.000	0.000	84.383	5.987	104.384	0.080	0.082	77.493	9.302	78.493	2.497	0.000	65.407	39.289	-0.681	2.286	243.517	0.000	0.000	0.000	0.000	9.369	93.689	93.689
262	10.400	34.120	-10.400	-34.120	118.593	6.756	391.340	5.697	11	9	7	6	8	130.461	2.090	1.243	0.847	27.135	0.917	113.612	104.129	0.000	0.000	93.757	5.799	116.504	0.096	0.098	84.608	10.191	85.608	2.458	0.000	68.435	39.793	-0.659	2.207	261.836	0.000	0.000	0.000	0.000	10.413	104.129	104.129
263	10.450	34.284	-10.450	-34.284	129.499	7.217	409.980	5.506	11	9	8	6	8	130.461	2.101	1.249	0.853	27.300	0.914	125.955	114.878	0.000	0.000	103.325	5.596	128.969	0.091	0.093	93.756	11.598	94.756	2.421	0.000	71.238	40.060	-0.589	2.143	280.716	0.000	0.000	0.000	0.000	11.483	114.826	114.826
264	10.500	34.448	-10.500	-34.448	170.839	8.454	558.920	4.949	11	9	8	6	8	130.461	2.111	1.254	0.857	27.464	0.912	163.664	149.335	0.000	0.000	134.577	5.010	168.729	0.097	0.098	121.345	14.695	122.345	2.316	0.000	78.770	41.516	-0.586	1.976	337.688	0.000	0.000	0.000	0.000	14.933	149.335	149.335
265	10.550	34.612	-10.550	-34.612	187.599	9.595	97.480	5.115	11	9	9	6	8	130.461	2.122	1.260	0.862	27.628	0.910	179.719	163.621	0.000	0.000	147.280	5.173	185.477	0.012	0.012	145.548	17.680	146.548	2.306	0.000	81.389	41.952	-0.650	1.935	363.086	0.000	0.000	0.000	0.000	16.362	163.621	163.621
266	10.600	34.776	-10.600	-34.776	157.419	9.850	92.700	6.257	11	9	9	6	8	130.461	2.133	1.265	0.867	27.792	0.908	150.807	136.995	0.000	0.000	122.763	6.343	155.287	0.013	0.013	121.161	14.804	122.161	2.422	0.000	76.298	41.104	-0.909	2.030	319.628	0.000	0.000	0.000	0.000	13.700	136.995	136.995
267	10.650	34.941	-10.650	-34.941	163.760	8.923	518.970	5.449	11	9	8	6	8	130.461	2.143	1.271	0.872	27.956	0.906	156.882	142.200	0.000	0.000	127.206	5.521	161.617	0.094	0.095	115.143	14.136	116.143	2.363	0.000	77.367	41.282	-0.670	2.007	328.820	0.000	0.000	0.000	0.000	14.220	142.200	142.200
268	10.700	35.105	-10.700	-35.105	153.024	7.169	226.480	4.685	11	9	9	6	8	130.461	2.154	1.277	0.878	28.120	0.904	146.597	132.587	0.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
313	12.950	42.486	-12.950	-42.486	466.817	9.161	768.370	1.962	8	6	0	7	8	120.915	2.614	1.506	1.108	35.506	0.833	111.803	93.108	85.273	71.014	308.419	1.973	464.204	0.049	0.049	293.220	42.423	294.220	1.762	7.326	0.000	45.881	-0.378	0.000	0.000	0.000	0.000	0.000	37.243	372.430	372.430
314	13.000	42.650	-13.000	-42.650	446.502	9.307	323.870	2.084	8	6	10	7	8	120.915	2.624	1.511	1.113	35.671	0.831	106.937	88.914	82.517	68.610	293.978	2.097	443.879	0.020	0.020	288.020	41.806	289.020	1.795	8.008	0.000	45.661	-0.387	0.000	0.000	0.000	0.000	0.000	35.566	355.657	355.657
315	13.050	42.814	-13.050	-42.814	464.059	5.465	515.600	1.178	9	6	10	7	8	124.097	2.634	1.515	1.118	35.835	0.830	88.914	73.808	79.599	66.076	304.605	1.184	461.426	0.032	0.032	294.719	42.915	295.719	1.577	3.998	0.000	45.838	-0.308	0.000	0.000	0.000	0.000	0.000	36.904	369.040	369.040
316	13.100	42.978	-13.100	-42.978	510.834	6.865	120.770	1.344	9	6	10	7	8	124.097	2.644	1.521	1.123	35.999	0.829	97.876	81.112	88.345	73.214	334.360	1.351	508.191	0.005	0.005	332.619	48.577	333.619	1.602	4.398	0.000	46.289	-0.336	0.000	0.000	0.000	0.000	0.000	40.556	405.561	405.561
317	13.150	43.143	-13.150	-43.143	329.319	4.366	155.190	1.326	9	6	10	7	8	124.097	2.654	1.526	1.129	36.163	0.827	63.097	52.204	59.060	48.863	214.214	1.337	326.666	0.011	0.011	211.778	31.085	212.778	1.709	6.290	94.776	44.183	-0.290	0.000	0.000	0.000	0.000	0.000	26.102	261.019	261.019
318	13.200	43.307	-13.200	-43.307	445.559	2.517	360.210	0.565	10	6	10	7	6	127.279	2.664	1.531	1.134	36.327	0.826	71.141	58.759	70.905	58.564	289.448	0.568	442.895	0.023	0.023	282.841	41.607	283.841	1.342	0.854	0.000	45.619	-0.231	0.000	0.000	0.000	0.000	0.000	35.255	352.552	352.552
319	13.250	43.471	-13.250	-43.471	532.231	5.431	395.810	1.020	10	6	10	7	8	127.279	2.675	1.536	1.139	36.491	0.825	84.980	70.067	88.834	73.245	344.886	1.026	529.557	0.021	0.021	337.581	49.804	338.581	1.494	2.750	0.000	46.460	-0.305	0.000	0.000	0.000	0.000	0.000	42.040	420.402	420.402
320	13.300	43.635	-13.300	-43.635	575.868	7.819	153.480	1.358	9	6	10	7	8	124.097	2.685	1.541	1.144	36.655	0.823	110.336	90.821	98.860	81.374	372.042	1.364	573.184	0.006	0.006	369.675	54.709	370.675	1.580	4.039	0.000	46.829	-0.348	0.000	0.000	0.000	0.000	0.000	45.410	454.104	454.104
321	13.350	43.799	-13.350	-43.799	570.235	2.267	113.090	0.398	10	7	10	7	8	127.279	2.695	1.546	1.149	36.820	0.822	91.048	74.818	85.920	70.604	367.143	0.399	567.541	0.004	0.004	365.604	54.291	366.604	1.159	0.000	0.000	46.774	-0.223	0.000	0.000	0.000	0.000	0.000	44.891	448.907	448.907
322	13.400	43.963	-13.400	-43.963	566.772	5.104	125.210	0.901	10	6	10	7	8	127.279	2.706	1.552	1.154	36.984	0.820	90.495	74.236	92.836	76.157	363.645	0.905	564.067	0.005	0.005	361.869	53.922	362.869	1.435	1.958	0.000	46.736	-0.298	0.000	0.000	0.000	0.000	0.000	44.541	445.414	445.414
323	13.450	44.127	-13.450	-44.127	585.121	8.755	141.140	1.496	9	6	10	7	8	124.097	2.716	1.557	1.159	37.148	0.819	112.109	91.814	101.590	83.198	374.216	1.503	582.406	0.006	0.006	372.130	55.633	373.130	1.614	4.592	0.000	46.881	-0.361	0.000	0.000	0.000	0.000	0.000	45.907	459.068	459.068
324	13.500	44.291	-13.500	-44.291	546.100	10.050	113.790	1.840	8	6	10	7	8	120.915	2.726	1.562	1.164	37.312	0.818	130.791	106.944	97.876	80.030	348.036	1.850	543.375	0.004	0.004	346.506	51.976	347.506	1.707	6.255	0.000	46.543	-0.385	0.000	0.000	0.000	0.000	0.000	42.778	427.777	427.777
325	13.550	44.455	-13.550	-44.455	506.650	9.437	102.450	1.863	8	6	10	7	8	120.915	2.736	1.567	1.169	37.476	0.816	121.343	99.066	91.477	74.683	321.772	1.873	503.914	0.004	0.004	320.477	48.231	321.477	1.729	6.664	0.000	46.178	-0.379	0.000	0.000	0.000	0.000	0.000	39.627	396.265	396.265
326	13.600	44.619	-13.600	-44.619	493.993	9.434	99.730	1.910	8	6	10	7	8	120.915	2.746	1.572	1.175	37.640	0.815	118.311	96.444	89.670	73.096	312.726	1.920	491.248	0.004	0.004	311.492	47.026	312.492	1.744	6.965	0.000	46.050	-0.380	0.000	0.000	0.000	0.000	0.000	38.578	385.776	385.776
327	13.650	44.783	-13.650	-44.783	485.468	9.532	103.860	1.963	8	6	10	7	8	120.915	2.756	1.576	1.180	37.804	0.814	116.270	94.635	88.575	72.094	306.358	1.975	482.713	0.004	0.004	305.049	46.197	306.049	1.758	7.258	0.000	45.959	-0.383	0.000	0.000	0.000	0.000	0.000	37.854	378.541	378.541
328	13.700	44.947	-13.700	-44.947	491.869	9.313	131.160	1.893	8	6	10	7	8	120.915	2.766	1.581	1.185	37.969	0.813	117.803	95.737	89.235	72.521	309.471	1.904	489.104	0.006	0.006	307.630	46.729	308.630	1.742	6.934	0.000	46.015	-0.378	0.000	0.000	0.000	0.000	0.000	38.295	382.950	382.950
329	13.750	45.111	-13.750	-45.111	496.442	2.780	166.930	0.560	10	6	10	7	6	127.279	2.776	1.586	1.190	38.133	0.811	79.265	64.316	78.291	63.525	311.362	0.563	493.667	0.008	0.008	308.826	47.060	309.826	1.313	0.535	0.000	46.051	-0.238	0.000	0.000	0.000	0.000	0.000	38.589	385.893	385.893
330	13.800	45.275	-13.800	-45.275	488.492	4.516	173.340	0.924	10	6	10	7	8	127.279	2.787	1.591	1.195	38.297	0.810	77.996	63.180	81.315	65.868	305.317	0.930	485.707	0.009	0.009	302.667	46.279	303.667	1.485	2.633	0.000	45.966	-0.284	0.000	0.000	0.000	0.000	0.000	37.908	379.078	379.078
331	13.850	45.439	-13.850	-45.439	467.165	4.756	96.970	1.018	9	6	10	7	8	124.097	2.797	1.597	1.200	38.461	0.809	89.509	72.388	78.922	63.826	290.956	1.024	464.370	0.004	0.004	289.811	44.464	290.811	1.531	3.288	0.000	45.745	-0.291	0.000	0.000	0.000	0.000	0.000	36.194	361.939	361.939
332	13.900	45.603	-13.900	-45.603	437.946	8.226	48.960	1.422	9	6	10	7	8	124.097	2.807	1.602	1.205	38.625	0.807	83.910	67.753	77.390	62.488	271.781	1.431	435.140	0.001	0.001	271.579	41.809	272.579	1.666	5.496	0.000	45.429	-0.323	0.000	0.000	0.000	0.000	0.000	33.876	338.764	338.764
333	13.950	45.767	-13.950	-45.767	438.161	5.511	53.070	1.258	9	6	10	7	8	124.097	2.817	1.607	1.210	38.789	0.806	83.952	67.679	76.300	61.511	271.053	1.266	435.345	0.001	0.001	270.775	41.817	271.775	1.623	4.741	0.000	45.424	-0.308	0.000	0.000	0.000	0.000	0.000	33.840	338.397	338.397
334	14.000	45.931	-14.000	-45.931	461.522	5.907	51.660	1.280	9	6	10	7	8	124.097	2.827	1.612	1.216	38.953	0.805	88.428	71.176	80.195	64.549	284.695	1.288	458.696	0.001	0.001	284.448	44.059	285.448	1.616	4.632	0.000	45.664	-0.315	0.000	0.000	0.000	0.000	0.000	35.588	355.879	355.879
335	14.050	46.095	-14.050	-46.095	472.183	6.154	106.220	1.303	9	6	10	7	8	124.097	2.838	1.617	1.221	39.117	0.804	90.470	72.706	82.081	65.964	290.394	1.311	469.347	0.004	0.004	289.097	44.918	290.097	1.618	4.653	0.000	45.766	-0.319	0.000	0.000	0.000	0.000	0.000	36.353	363.530	363.530
336	14.100	46.259	-14.100	-46.259	504.094	6.426	58.350	1.275	9	6	10	7	8	124.097	2.848	1.622	1.226	39.282	0.802	96.584	77.498	86.941	69.760	309.164	1.282	501.248	0.001	0.001	308.796	48.118	309.796	1.594	4.263	0.000	46.071	-0.322	0.000	0.000	0.000	0.000	0.000	38.749	387.492	387.492
337	14.150	46.423	-14.150	-46.423	510.279	6.670	47.960	1.307	9	6	10	7	8	124.097	2.858	1.627	1.231	39.446	0.801	97.770	78.327	88.199	70.660	311.999	1.314	507.423	0.001	0.001	311.836	48.741	312.836	1.601	4.370	0.000	46.122	-0.326	0.000	0.000	0.000	0.000	0.000	39.164	391.636	391.636
338	14.200	46.587	-14.200	-46.587	502.593	6.683	45.370	1.330	9	6	10	7	8	124.097	2.868	1.632	1.236	39.610	0.800	96.297	77.028	87.168	69.726	306.315	1.337	499.726	0.000	0.000	306.204	48.013	307.204	1.611	4.539	0.000	46.042	-0.327	0.000	0.000	0.000	0.000	0.000	38.514	385.139	385.139
339	14.250	46.751	-14.250	-46.751	476.698	6.225	34.980	1.306	9	6	10	7	8	124.097	2.878	1.637	1.241	39.774	0.799	91.335	72.946	82.863	66.180	289.538	1.314	473.821	-0.000	-0.000	289.629	45.563	290.629	1.617	4.651	0.000	45.782	-0.319	0.000	0.000	0.000	0.000	0.000	36.473	364.731	364.731
340	14.300	46.915	-14.300	-46.915	418.172	3.997	27.520	0.956	9	6	10	7	8	124.097	2.889	1.642	1.246	39.938	0.797	80.122	63.892	70.917	56.551	252.986	0.962	415.284	-0.001	-0.001	253.222	39.979	254.222	1.543	3.463	0.000	45.149	-0.271	0.000	0.000	0.000	0.000	0.000	31.946	319.458	319.458
341	14.350	47.079	-14.350	-47.079	386.201	3.146	22.610	0.815	10	6	10	7	6	127.279	2.899	1.647	1.251	40.102	0.796	61.663	49.095	64.853	51.634	232.768	0.821	383.304	-0.001	-0.001	233.099	36.930	234.099	1.513	3.017	0.000	44.761	-0.248	0.000	0.000	0.000	0.000	0.000	29.457	294.569	294.569
342	14.400	47.244	-14.400	-47.244	345.240	2.843	22.460	0.823	9	6	10	7	6	124.097	2.909	1.653	1.257	40.266	0.795	66.148	52.583	58.675	46.642	207.235	0.830	342.332	-0.002	-0.002	207.571	33.007	208.571	1.550	3.564	94.983	44.218	-0.238	0.000	0.000	0.000	0.000	0.000	26.291	262.913	262.913
343	14.450	47.408	-14.450	-47.408	341.829	3.287	15.920	0.962	9	6	10	7	6	124.097	2.919	1.658	1.262	40.431	0.794	65.495	51.984	59.132	46.934	204.538	0.970	338.911	-0.002	-0.002	204.999	32.700	205.999	1.603	4.411	94.655	44.163	-0.252	0.000	0.000	0.000	0.000	0.000	25.992	259.918	259.918
344	14.500	47.572	-14.500	-47.572	430.317	4.534	20.360	1.054	9	6	10	7	8	124.097	2.930	1.663	1.267	40.595	0.792	82.449	65.341	73.632	58.354	257.150	1.061	427.389	-0.001	-0.001	257.530	41.163	258.530	1.570	3.883	0.000	45.256	-0.283	0.000	0.000	0.000	0.000	0.000	32.670	326.703	326.703
345	14.550	47.736	-14.550	-47.736	444.576	5.239	20.210	1.178	9	6	10	7	8	124.097	2.940	1.668	1.272	40.759	0.791	85.181	67.403	76.853	60.814	264.917	1.186	441.638	-0.001	-0.001	265.302	42.530	266.302	1.601	4.377	0.000	45.404	-0.298	0.000	0.000	0.000	0.000	0.000	33.702	337.016	337.016
346	14.600	47.900	-14.600	-47.900	419.961	5.319	22.530	1.267	9	6	10	7	8	124.097	2.950	1.673	1.277	40.923	0.790	80.464	63.575	73.590	58.143	249.389	1.276	417.012	-0.001	-0.001	249.732	40.165	250.732	1.641	5.058	0.000	45.125	-0.301	0.000	0.000	0.000	0.000	0.000	31.787	317.874	317.874
347	14.650	48.064	-14.650	-48.064	411.354	5.786	21.510	1.407	9	6	10	7	8	124.097	2.960	1.678	1.282	41.087	0.789	78.815	62.178	73.136	57.697	243.499	1.417	408.395	-0.001	-0.001	243.863	39.343	244.863	1.684	5.820	0.000	45.019	-0.311	0.000	0.000	0.000	0.000	0.000	31.089	310.890	310.890
348	14.700	48.228	-14.700	-48.228	473.598	6.920	25.350	1.461	9	6	10	7	8	124.097	2.970	1.683	1.287	41.251	0.788	90.741	71.479	83.601	65.854	279.762	1.470	470.629	-0.001	-0.001	280.056	45.295	281.056	1.663	5.440	0.000	45.685	-0.330	0.000	0.000	0.000	0.000	0.000	35.739	357.394	357.394
349	14.750	48.392	-14.750	-48.392	493.487	1.740	26.680	0.353	10	7	10	7	6	127.279	2.981	1.688	1.292	41.415	0.787	78.793	61.972	74.899	58.909	290.682	0.355	490.507	-0.001	-0.001	290.954	47.196	291.954	1.184	0.000	0.000	45.874	-0.192	0.000	0.000	0.000	0.000	0.000	37.183	371.830	371.830
350	14.800	48.556	-14.800	-48.556	523.697	3.203	28.380	0.612	10	6	10	7	8	127.279	2.991	1.693	1.298	41.580	0.785	83.617	65.662	83.163	65.306	307.609	0.615	520.707	-0.001	-0.001	307.852	50.085	308.852	1.335	0.778	0.000	46.150	-0.246	0.000	0.000	0.000	0.000	0.000	39.397	393.972	393.972
351	14.850	48.720	-14.850	-48.720	556.780	4.565	25.640	0.820	10	6	10	7	8	127.279	3.001	1.699	1.303	41.744	0.784	88.899	69.701	90.718	71.127	326.122	0.824	553.780	-0.001	-0.001	326.418	53.263	327.418	1.418	1.746	0.000	46.435	-0.279	0.000	0.000	0.000	0.000	0.000	41.820	418.204	418.204
352	14.900	48.884	-14.900	-48.884	549.687	3.842	21.920	0.699	10	6	10	7	8	127.279	3.012	1.704	1.308	41.908	0.783	87.767	68.705	88.150	69.006	320.934	0.703	546.676	-0.001	-0.001	321.299	52.594	322.299	1.367	1.135	0.000	46.367	-0.262	0.000	0.000	0.000	0.000	0.000	41.223	412.231	412.231
353	14.950	49.048	-14.950	-49.048	489.967	2.866	22.020	0.585	10	6	10	7	6	127.279	3.022	1.709	1.313	42.072	0.782	78.231	61.145	77.957	60.931	284.979	0.589	486.946	-0.001	-0.001	285.345	46.873	286.345	1.341	0.847	0.000	45.810	-0.235	0.000	0.000	0.000	0.000	0.000	36.687	366.873	366.873
354	15.000	49.212	-15.000	-49.212	429.728	3.385	25.290	0.788	10	6	10	7	6	127.279	3.033	1.715	1.318	42.236	0.780	68.613	53.545	71.333	55.667	248.943	0.793	426.696	-0.001	-0.001	249.251	41.092	250.251	1.477	2.513	0.000	45.176	-0.251	0.000	0.000	0.000	0.000	0.000	32.127	321.268	321.268
355	15.050	49.376	-15.050	-49.376	351.384	3.387	48.670	0.964	9	6	10	7	6	124.097	3.043	1.720	1.323	42.400	0.779	67.325	52.460	60.749	47.336	202.617	0.972	348.342	0.001	0.001	202.502	33.517	203.502	1.601	4.381	94.916	44.207	-0.251	0.000	0.000	0.000	0.000	0.000	26.230	262.300	262.300
356	15.100	49.540	-15.100	-49.540	311.574	2.842	32.720	0.912	9	6	10	7	6	124.097	3.053	1.725	1.328	42.564	0.778	59.698	46.448	54.191	42.164	178.929	0.921	308.522	-0.001	-0.001	179.106	29.751	180.106	1.619	4.679	91.427	43.625	-0.234	0.000	0.000	0.000	0.000	0.000	23.224	232.242	232.242
357	15.150	49.704	-15.150	-49.704	280.331	2.707	24.120	0.966	9	6	10	6	6	124.097	3.063	1.730	1.333	42.729	0.777	53.711	41.730	49.593	38.530	160.333	0.976	277.268	-0.002	-0.002	160.668	26.784	161.668	1.669	5.555	88.357	43.114	-0.230	0.000	0.000	0.000	0.000	0.000	20.865	208.648	208.648
358	15.200	49.868	-15.200	-49.868	257.223	2.184	19.700	0.849	9	6	10	6	6	124.097	3.074	1.735	1.339	42.893	0.776	49.284	38.234	45.309	35.150	146.536	0.859	254.151	-0.003	-0.003	146.953	24.583	147.953	1.657	5.329	85.849	42.696	-0.209	2.028	521.736	0.000	0.000	0.000	19.117	191.170	191.170
359	15.250	50.032	-15.250	-50.032	260.352	2.254	19.600	0.866	9	6	10	6	6	124.097	3.084	1.740	1.344	43.057	0.775	49.884	38.643	45.900	35.557	147.903	0.876	257.270	-0.003	-0.003	148.324	24.883	149.324	1.659	5.374	86.154	42.746	-0.212	2.043	532.245	0.000	0.000	0.000	19.321	193.214	193.214
360	15.300	50.196	-15.300	-50.196	312.480	2.494	20.820	0.798	9	6	10	7	6	124.097	3.094	1.745	1.349	43.221	0.774	59.871	46.313	53.611	41.470	177.350	0.806	309.387	-0.002	-0.002	177.750	29.873	178.750	1.578	4.009	91.344	43.611	-0.221	0.000	0.000	0.000	0.000	0.000	23.156	231.563	231.563
361	15.350	50.360	-15.350	-50.360	304.062	3.045	19.600	1.001	9	6	10	6	6	124.097	3.104	1.750	1.354	43.385	0.772	58.258	45.000	53.590	41.394	172.020	1.012	300.959	-0.002	-0.002	172.444	29.071	173.444	1.658	5.358	90.519	43.474	-0.240	0.000	0.000	0.000	0.000	0.000	22.500	224.999	224.999
362	15.400	50.524	-15.400	-50.524	306.660	0.868	19.300	0.283	10	6	10	6	6	127.279	3.114	1.755	1.359	43.549	0.771	48.963	37.764	48.235	37.202	172.986	0.286	303.547	-0.002	-0.002	173.417	29.320	174.417	1.304	0.445	90.721	43.508	-0.129	0.000	0.000	0.000	0.000	0.000	22.659	226.586	226.586
363	15.450	50.688	-15.450	-50.688	223.574	2.129	15.010	0.952	9	6	9	6	6	124.097	3.125	1.761	1.364	43.713	0.770	42.837	32.990	40.501	31.191	125.260	0.966	220.450	-0.004	-0.004	125.769	21.373	126.769	1.738	6.850	81.621	41.991	-0.206	1.987	444.446	0.000	0.000	0.000	16.495	164.951	164.951
364	15.500	50.852	-15.500	-50.852	209.675	3.085	34.450	1.471	8	6	9	6	5	120.915	3.135	1.766	1.369	43.878	0.769	50.217	38.620	40.164	30.889	117.030	1.494	206.542	-0.001	-0.001	117.196	19.984	118.196	1.893	10.236	79.741	41.678	-0.244	2.021	423.997	0.000	0.000	0.000	15.448	154.481	154.481
365	15.550	51.016	-15.550	-51.016	216.265	3.205	21.610	1.482	8	6	9	6	5	120.915	3.145	1.770	1.374	44.042	0.768	51.795	39.780	41.327	31.740	120.431	1.504	213.121	-0.003	-0.003	120.826	20.654	121.826	1.887	10.081	80.589	41.819	-0.248	2.005	433.761	0.000	0.000	0.000	15.912	159.120	159.120
366	15.600	51.180	-15.600	-51.180	217.456	2.766	18.590	1.272	9	6	9	6	5	124.097	3.155	1.775	1.379	44.206	0.767	41.665	31.955	40.805	31.296	120.762	1.291	214.303	-0.004	-0.004	121.212	20.777	122.212	1.837	8.933	80.707	41.839	-0.231	2.003	435.805	0.000	0.000	0.000	15.977	159.774	159.774
367	15.650	51.345	-15.650	-51.345	220.709	1.901	15.850	0.861	9	6	9	6	6	124.097	3.165	1.780	1.385	44.370	0.766	42.288	32.387	39.650	30.367	122.241	0.874	217.545	-0.004	-0.004	122.740	21.097	123.740	1.714	6.385	81.092	41.903	-0.194	1.997	440.980	0.000	0.000	0.000	16.193	161.933	161.933
368	15.700	51.509	-15.700	-51.509	216.751	3.461	14.610	1.597	8	6	9	6	5	120.915	3.175	1.785	1.390	44.534	0.765	51.912	39.702	41.801	31.970	119.680	1.620	213.577	-0.004	-0.004	120.203	20.721	121.203	1.912	10.676	80.533	41.810	-0.256	2.008	435.345	0.000	0.000	0.000	15.881	158.810	158.810
369	15.750	51.673	-15.750	-51.673	168.802	5.022	11.600	2.975	7	5	9	6	4	117.733	3.185	1.790	1.395	44.698	0.764	53.904	41.172	36.312	27.735	92.564	3.032	165.619	-0.006	-0.006	93.141	16.137	94.141	2.190	18.657	73.329	40.609	-0.330	2.183	368.572	0.000	0.000	0.000	12.352	123.517	123.517
370	15.800	51.837	-15.800	-51.837	121.901	5.326	9.710	4.369	11	4	9	6	3	130.461	3.195	1.795	1.400	44.862	0.763	116.781	89.072	28.878	22.026	66.158	4.487	118.707	-0.009	-0.009	66.769	11.649	67.769	2.411	26.882	63.958	39.047	-0.410	2.438	297.263	0.000	0.000	0.000	8.907	89.072	89.072
371	15.850	52.001	-15.850	-52.001	124.154	4.659	19.860	3.753	6	4	9	6	4	114.551	3.205	1.800	1.405	45.026	0.762	47.576	36.238	28.680	21.845	67.224	3.852	120.950	-0.006	-0.006	67.660	11.835	68.660	2.356	24.642	64.444	39.128	-0.352	2.423	300.985	0.000	0.000	0.000	9.059	90.594	90.594
372	15.900	52.165	-15.900	-52.165	130.149	6.625	39.820	5.090	11	9	9	6	8	130.461	3.215	1.805	1.410	45.191	0.761	124.682	94.839	0.000	0.000	70.357	5.219	126.935	-0.001	-0.001	70.450	12.349	71.450	2.446	0.000	65.756	39.347	-0.512	2.385	310.489	0.000	0.000	0.000	9.484	94.839	94.839
373	15.950	52.329	-15.950	-52.329	163.873	5.322	176.700	3.248	6	5	9	6	4	114.551	3.225	1.810	1.415	45.355	0.760	62.796	47.700	35.839	27.223	88.802	3.313	160.649	0.025	0.026	86.535	15.171	87.535

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
1	CoreTec CPT Interpretations																																										
2	Interpretation Output - SLYBOWR Version:0.99.999 - Mar. 9 2015																																										
3	OAG Version: 999																																										
4	Interpretation Format																																										
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11	Zone ID																																										
12	Operator																																										
13	CPT Date																																										
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20	Tip Conversion to Bar																																										
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29	Grid Zone																																										
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32	Elevation																																										
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34	Tip Net Area Ratio																																										
35	Unit Weight of Soil Above																																										
36	Unit Weight of Soil Below																																										
37	Equilibrium U Profile Used																																										
38	Sand Like Material Profile Used																																										
39	Water Table																																										
40	Averaging Interval																																										
41																																											
42	Soil Fractions Min and Max																																										
43	Qc Exp. and Units																																										
44	Qc1 Exp. and Units																																										
45	Gate Parameter M																																										
46	Rel. Sc Fn																																										
47	Relative Density Method																																										
48	Phi Angle Method																																										
49	Energy Modified Sand Type																																										
50	Hydric Method																																										
51																																											
52	Depth m	Depth ft	Elev m	Elev ft	Avg qc bsf	Avg fs bsf	Avg u bsf	Avg Rf bsf	SBT	SBTn	SBT Bq	SBT Rqtn	SBT Qtn	Unit Wt bsf	Sleeve bsf	Excess bsf	Equiv u bsf	Equiv s bsf	Ic	Nd(b) bsf	Nd(k) bsf	Nd(c) bsf	Nd(s) bsf	Norm Qt	Norm Ft %	Net qt bsf	Delta Ueq	Eq	Qt--Eq	qe MPa	qsleeve MPa	Ic	Fric %	Ic bsf	Kc bsf	Soil Behavior bsf	Su (Nkt) bsf	Su (Nkb) bsf	OCR	St1 (Cp) bsf	qc1	qc1n
53	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0	114.053	0.000	0.000	0.000	0.000	0.000	1.700	1158.050	1.950	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
54	0.100	0.328	-0.100	-0.328	30.381	0.368	0.640	1.211	7	9	7	6	0	117.732	0.018	0.018	0.000	0.000	0.700	9.702	16.493	0.000	0.000	1604.938	1.212	30.363	0.004	0.004	1599.143	2.900	1600.143	2.353	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	0.150	0.492	-0.150	-0.492	30.549	0.331	0.656	1.083	7	9	7	6	0	117.732	0.029	0.029	0.000	0.000	0.700	11.419	19.413	0.000	0.000	1607.857	1.212	54.526	0.003	0.002	1602.949	2.212	1603.949	2.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
56	0.200	0.656	-0.200	-0.656	56.479	0.762	0.640	1.213	7	9	7	6	0	117.732	0.058	0.058	0.000	0.000	0.700	21.138	35.933	0.000	0.000	1685.564	1.212	64.439	0.001	0.001	1683.225	6.168	1684.225	1.993	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
57	0.250	0.820	-0.250	-0.820	56.607	0.217	0.640	0.768	7	9	7	6	0	117.732	0.088	0.088	0.000	0.000	0.700	21.376	36.353	0.000	0.000	1475.357	1.723	76.643	0.000	0.000	1475.357	1.723	76.643	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
58	0.300	0.984	-0.300	-0.984	59.884	1.512	0.600	2.123	7	9	7	6	0	117.732	0.058	0.058	0.000	0.000	0.700	22.639	38.496	0.000	0.000	1231.651	2.134	70.837	-0.000	-0.000	1231.526	6.794	1232.526	2.093	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
59	0.350	1.148	-0.350	-1.148	59.525	1.600	0.600	2.519	9	9	8	7	0	117.732	0.067	0.067	0.000	0.000	0.700	25.109	42.696	0.000	0.000	976.024	2.521	65.458	0.000	0.000	975.638	5.275	976.638	2.170	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
60	0.400	1.312	-0.400	-1.312	59.163	1.704	0.740	3.286	9	9	8	7	0	117.732	0.077	0.077	0.000	0.000	0.700	27.879	47.424	0.000	0.000	897.828	2.907	72.679	0.000	0.000	897.828	2.907	72.679	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
61	0.450	1.476	-0.450	-1.476	77.154	1.779	0.580	2.306	7	9	7	6	0	117.732	0.096	0.096	0.000	0.000	0.700	34.638	61.694	0.000	0.000	894.277	2.308	77.068	0.000	0.000	894.066	7.360	897.066	2.094	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
62	0.500	1.640	-0.500	-1.640	77.307	1.857	0.600	2.401	7	9	7	6	0	130.813	0.096	0.096	0.000	0.000	0.700	37.397	66.546	0.000	0.000	1192.205	1.921	114.165	-0.000	-0.000	1192.205	10.653	1193.205	1.804	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
63	0.550	1.804	-0.550	-1.804	132.550	1.704	0.740	1.286	9	9	8	7	0	130.813	0.106	0.106	0.000	0.000	0.700	31.767	53.970	0.000	0.000	1053.293	1.287	132.452	-0.000	-0.000	1052.422	13.701	1054.422	1.749	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
64	0.600	1.968	-0.600	-1.968	132.550	1.704	0.740	1.286	9	9	8	7	0	130.813	0.115	0.115	0.000	0.000	0.700	34.099	59.459	0.000	0.000	1049.983	1.592	151.739	-0.000	-0.000	1049.983	15.592	1050.983	1.707	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
65	0.650	2.133	-0.650	-2.133	169.874	2.191	0.960	2.499	7	9	7	6	0	117.732	0.125	0.125	0.000	0.000	0.700	33.170	56.390	0.000	0.000	827.268	2.112	169.749	-0.000	-0.000	827.037	9.964	828.037	1.982	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
66	0.700	2.297	-0.700	-2.297	169.874	2.191	0.960	2.499	7	9	7	6	0	114.053	0.135	0.135	0.000	0.000	0.700	37.418	64.116	0.000	0.000	626.282	2.782	84.482	-0.001	-0.001	625.438	8.615	627.438	1.852	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
67	0.750	2.461	-0.750	-2.461	65.208	0.453	0.720	0.721	7	9	7	6	0	114.053	0.144	0.144	0.000	0.000	0.700	34.619	59.992	0.000	0.000	530.143	2.736	75.562	-0.000	-0.000	530.264	7.205	531.264	2.169	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
68	0.800	2.625	-0.800	-2.625	65.208	0.453	0.720	0.721	7	9	7	6	0	114.053	0.154	0.154	0.000	0.000	0.700	37.866	65.588	0.000	0.000	530.479	2.736	75.562	-0.000	-0.000	530.264	7.205	531.264	2.169	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
69	0.850	2.789	-0.850	-2.789	82.622	1.062	1.210	2.278	9	9	8	7	0	114.053	0.163	0.163	0.000	0.000	0.700	37.866	65.273	0.000	0.000	284.852	2.289	86.495	-0.001	-0.001	285.083	5.479	286.083	2.261	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70	0.900	2.953	-0.900	-2.953	81.089	0.916	1.010	2.525	9	9	8	7	0	114.053	0.173	0.173	0.000	0.000	0.700	33.913	59.252	7.382	12.516	179.230	2.629	90.692	-0.002	-0.002	179.557	3.984	180.557	2.411	15.952	58.359	30.349	0.379	2.922	90.692	0.000	0.000	0.000	0.063	50.631	50.631
71	0.950	3.117	-0.950	-3.117	81.089	0.916	1.010	2.525	9	9	8	7	0	114.053	0.183	0.183	0.000	0.000	0.700	37.866	65.273	0.000	0.000	102.454	3.573	94.622	-0.003	-0.003	102.454	3.573	94.622	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
72	1.000	3.281	-1.000	-3.281	81.268	0.597	0.400	0.286	3	4	6	6	6	111.369	0.181	0.181	0.000	0.000	0.700	10.764	18.350	3.531	6.003	57.945	5.390	11.676	-0.001	-0.001	59.010	1.081	59.010	2.966	64.895	0.000	31.550	0.498	0.000	0.000	0.000	0.000	1.835	18.350	18.350
73	1.050	3.445	-1.050	-3.445	81.268	0.597	0.400	0.286	3	4	6	6	6	111.369	0.191	0.191	0.000	0.000	0.700	10.764	18.350	3.531	6.003	57.945	5.390	11.676	-0.001	-0.001	59.010	1.081	59.010	2.966	64.895	0.000	31.550	0.498	0.000	0.000	0.000	0.000	1.835	18.350	18.350
74	1.100	3.609	-1.100	-3.609	38.777	0.457	0.570	0.724	5	5	7	6	5	117.732	0.210	0.210	0.000	0.000	0.700	8.006	13.662	4.405	7.499	79.005	2.758	16.568	0.029	0.029	76.743	1.561	77.743	2.425	35.611	37.989	33.655	0.295	0.000	0.000	0.000	0.000	1.732	37.322	37.322
75	1.150	3.773	-1.150	-3.773	38.777	0.457	0.570	0.724	5	5	7	6	5	117.732	0.220	0.220	0.000	0.000	0.700	8.006	13.662	4.405	7.499	79.005	2.758	16.568	0.029	0.029	76.643	1.561	77.643	2.425	35.611	37.989	33.655	0.295	0.000	0.000	0.000	0.000	1.732	37.322	37.322
76	1.200	3.937	-1.200	-3.937	33.008	0.394	0.590	1.193	7	5	7	6	5	117.732	0.229	0.229	0.000	0.000	0.700	10.545	17.939	7.050	11.965	143.914	1.201	32.790	-0.001	-0.001	143.834	2.166	144.834	2.171	19.944	38.064	36.637	0.245	2.933	93.600	0.000	0.000	0.000	0.379	59.797	59.797
77	1.250	4.101	-1.250	-4.101	33.008	0.394	0.590	1.193	7	5	7	6	5	117.732	0.238	0.238	0.000	0.000	0.700	10.545	17.939	7.050	11.965	143.914	1.201	32.812	-0.001	-0.001	143.834	2.166	144.834	2.171	17.436	33.852	35.659	0.210	2.933	90.956	0.000	0.000	0.000	0.375	58.745	58.745
78	1.300	4.265	-1.300	-4.265	39.368	0.302	0.400	0.628	7	5	7	6	5	117.732	0.248	0.248	0.000	0.000	0.700	9.978	16.943	4.005	6.820	79.005	2.758	16.568	0.029	0.029	76.743	1.561	77.743	2.425	19.181	51.535	36.676	0.295	3.005	88.400	0.000	0.000	0.000	0.783	67.839	67.839
79	1.350	4.429	-1.350	-4.429	39.368	0.302	0.400	0.628	7	5	7	6	5	117.732	0.257	0.257	0.000	0.000	0.700	9.978	16.943	4.005	6.820	79.005	2.758	16.568	0.029	0.029	76.743	1.561	77.743	2.425	19.181	51.535	36.676	0.295	3.005	88.400	0.000	0.000	0.000	0.783	67.839	67.839
80	1.400	4.593	-1.400	-4.593	37.358	0.252	0.390	0.621	7	5	7	6	5	117.732	0.267	0.267	0.000	0.000	0.700	8.736	14.832	3.648	5.942	101.427	0.839	27.099	-0.000	-0.000	101.473	2.822	102.473	2.175	19.158	48.428	35.738	0.182	3.119	95.356	0.000	0.000	0.000	0.455	68.556	68.556
81	1.450	4.757	-1.450	-4.757	37.358	0.239	0.330	0.637	7	5	7	6	5	117.732	0.277	0.277	0.000	0.000	0.700	8.704	14.796	5.602	9.864	97.498	0.880	26.682	-0.000	-0.000	97.528	3.012	98.528	2.164	17.924	47.614	35.720	0.174	3.125	95.356	0.000	0.000	0.000	0.428	66.393	66.393
82	1.500	4.921	-1.500	-4.921	37.358	0.239	0.330	0.637	7	5	7	6	5	117.732	0.287	0.287	0.000	0.000	0.700	8.704	14.796	5.602	9.864	97.498	0.880	26.682	-0.000	-0.000	97.528	3.012	98.528	2.164	17.924	47.614	35.720	0.174	3.125	95.356	0.000	0.000	0.000	0.428	66.393	66.393
83	1.550	5.085	-1.550	-5.085	32.310	0.226	0.650	0.699	7	6	7	6	6	117.732	0.296	0.296	0.000	0.000	0.700	10.318	17.540	6.588	11.165	109.192	0.706	32.014	-0.000	-0.000	108.138	3.096	109.138	2.350	14.328	51.721	36.533	0.163	2.866	92.608	0.000	0.000	0.000	0.262	62.620	62.620
84	1.600	5.249	-1.600	-5.249	32.310	0.226	0.650	0.699	7	6	7	6	6	117.732	0.306	0.306	0.000	0.000	0.700	10.318	17.540	6.588	11.165	109.192	0.706	32.014	-0.000	-0.000	108.138	3.096	109.138	2.350	14.328	51.721	36.533	0.163	2.866	92.608	0.000	0.000	0.000	0.262	62.620	62.620
85	1.650	5.413	-1.650	-5.413	31.081	0.233	0.150	0.587	7	5	7	6	5	117.732	0.316	0.316	0.000	0.000	0.700	8.119	13.703	2.703	4.623	129.269	0.572	40.750	0.000	0.000	129.269	1.605	130.269	1.813	10.706	57.359	37.589	0.161	2.524	104.304	0.000	0.000	0.000	0.690	95.904	95.904
86	1.700	5.577	-1.700	-5.577	31.081	0.233	0.150	0.587	7	5	7	6	5	117.732	0.325	0.325	0.000	0.000	0.700	8.119	13.703	2.703	4.623	129.269	0.572	40.750	0.000	0.000	129.269	1.605	130.269	1.813	10.706	57.359	37.589	0.161	2.524	104.304	0.000	0.000	0.000	0.690	95.904	95.904
87	1.750	5.741	-1.750	-5.741	31.449	0.344	0.150	0.664	7	5	7	6	5	117.732	0.335	0.335	0.000	0.000	0.700	10.043	17.023	6.702	11.359	92.967	1.356	31.114	-0.000	-0.000	92.981	3.013	93.981	2.387	17.909	49.190	36.454	0.190	2.905	91.402	0.000	0.000	0.000	0.122	51.218	51.218
88	1.800	5.905	-1.800	-5.905	32.310	0.226	0.650	0.699	7	6	7	6	6	117.732	0.345	0.345	0.000	0.000	0.700	10.318	17.540	6.588	11.165	109.192	0.706	32.014	-0.000	-0.000	108.138	3.096	109.138	2.350	14.328	51.721	36.533	0.163	2.866	92.608	0.000	0.000	0.000	0.262	62.620	62.620
89	1.850	6.069	-1.850	-6.069	32.310	0.226	0.650	0.699	7	6	7	6	6	117.732	0.354	0.354	0.000	0.000	0.700	10.318	17.540	6.588	11.165	109.192	0.706	32.014	-0.000	-0.000	108.138	3.096	109.138	2.350	14.328	51.721	36.533	0.163	2.866	92.608	0.000	0.000	0.000	0.262	62.620	62.620
90	1.900	6.234	-1.900	-6.234	38.384	0.282	0.160	0.763	7	5	8	6	6	117.732	0.364	0.364	0.000	0.000	0.700	12.257	20.937	7.674	13.049	106.684	0.771	39.030	0.002	0.002	106.514	3.671	107.514	2.007	13.136	54.691	37.396	0.170	2.629	100.771	0.000	0.000	0.000	0.251	62.512	62.512
91	1.950	6.398	-1.950	-6.398	38.384	0.282	0.160	0.763	7	5	8	6	6	117.732	0.374	0.374	0.000	0.000	0.700	12.257	20.937	7.674	13.049	106.684	0.771	39.030	0.002	0.002	106.514	3.671	107.514	2.007	13.136	54.691	37.396	0.170	2.629	100.771	0.000	0.000	0.000	0.251	62.512	62.512
92	2.000	6.562	-2.000	-6.562	46.534	0.619	0.430	0.900	7	5	8	6	6	117.732	0.383	0.383	0.000	0.000	0.700	14.860	25.376	9.212	15.565	126.184	0.908	46.182	-0.000	-0.000	126.076	4.460	127.076	1.981	13.049	54.150	38.246	0.201	2.481	111.768	0.000	0.000	0.000	0.522	75.315	75.315
93	2.050	6.726	-2.050	-6.726	46.534	0.619	0.430	0.900	7	5	8	6	6	117.732	0.393	0.393	0.000	0.000	0.700	14.860	25.376	9.212	15.565	126.184	0.908	46.182	-0.000	-0.000	125.976	4.460	126.976	1.981	13.049	54.150	38.246	0.201	2.481	111.768	0.000	0.000	0.000	0.522	75.315	75.315
94	2.100	6.890	-2.100	-6.890	38.156	0.840	0.790	2.201	5	5	8	6	6	114.552	0.402	0.275	0.028	0.000	0.689	14.822	24.406	8.604	14.262	100.773	2.229	37.704	-0.010	-0.010	101.827	3.681	102.827	2.361	22.555	63.114	37.249	0.297	2.654	101.269	0.000	0.000	0.000	0.102	61.015	61.015
95	2.150	7.054	-2.150	-7.054	38.156	0.840	0.790	2.201	5	5	8	6	6	114.552	0.412	0.379	0.028	0.000	0.689	14.822	24.406	8.604	14.262	100.773	2.229	37.704	-0.010	-0.010	101.827	3.681	102.827	2.361	22.555	63.114	37.249	0.297	2.654	101.269	0.000	0.000	0.000	0.102	61.015	61.015
96	2.200	7.218	-2.200	-7.218	33.605	0.895	0.210	4.344	7	5	7	6	5	114.552	0.421	0.388	0.028	0.218	0.690	13.160	21.720	9.635	16.638	93.635	4.454	83.380	-0.026	-0.026	94.010	2.019	95.010	2.495	60.208	35.130	34.242	0.369	3.610	84.510	0.000	0.000	0.000	0.258	50.579	49.657
97	2.250	7.382	-2.250	-7.382	33.605	0.895	0.210	4.344	7	5	7	6	5	114.552	0.431	0.398	0.028	0.218	0.690	13.160	21.720	9.635	16.638	93.635	4.454	83.380	-0.026	-0.026	94.010	2.019	95.010	2.495	60.208	35.130	34.242	0.369	3.610	84.510	0.000	0.000	0.000	0.258	50.579	49.657
98	2.300	7.546	-2.300	-7.546	39.714	0.992	0.390	3.641	5	5	8	6	6	114.552	0.440	0.292	0.028	0.218	0.545	14.632	24.233	7.474	12.201	74.726	3.899	29.275	-0.009	-0.010	75.436	2.869	76.436	2.539	19.455	45.307	35.939	0.354	3.053	90.766	0.000	0.000	0.000	0.647	46.466	46.466
99	2.350	7.710	-2.350	-7.710	39.714	0.992	0.390	3.641	5	5	8	6	6	114.552	0.450	0.302	0.028	0.218	0.545	14.632	24.233	7.474	12.201	74.726	3.899	29.275	-0.009	-0.010	75.436	2.869	76.436	2.539	19.455	45.307	35.939	0.354	3.053	90.766	0.000	0.000	0.000	0.647	46.466	46.466
100	2.400	7.874	-2.400	-7.874	51.933	1.169	0.590	3.049	7	5	8	6	6	117.732	0.459	0.401	0.058	0.874	0.689	14.860	25.376	9.212	15.565	136.184	0.908	46.182	-0.000	-0.000	136.076	4.460	137.076	1.981	13.049	54.150

ConeTec CPT Interpretations	
Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011	
DAS Version: W47	
Interpretation Format:	All but Liquefaction Parameters (NLI)
Run ID:	1347638837
Job No:	12-972
Client:	TertaTech
Project:	Dump Road
Facility:	Dump Road
Sounding ID:	DR-CPT-02
Cone ID:	167:T1500F15U500
Operator:	TS-TW
CPT Date:	Sep-09-2012
CPT Time:	23:53
CPT File:	972CP02.COR
Tip Units:	tsf
Sleeve Units:	tsf
PP Units:	ft
Tip Conversion to bar:	0.9580
Sleeve Conversion to bar:	0.9580
PP Conversion to meters:	0.3050
Col 5 (Extra Module) Parameter	N/A
Col 5 (Extra Module) Units	N/A
Coord Source:	
Coord Type:	
UTM Zone:	N/A
Easting / Long:	76.411360
Northing / Lat:	39.324960
Elevation:	0.000
Tip Net Area Ratio:	0.80
Unit Weight of Soil Base:	Based on Soil Zones
Unit Weight of Soil (Def):	18.64 kN/m^3 118.62 pcf
Unit Weight of Water:	9.81 kN/m^3 62.43 pcf
Equilibrium U Profile Used:	No
Soil Unit Weight Profile Used:	No
Water Table	30.48 m 100.00 ft
Averaging Interval:	0.00 m 0.00 ft
Su Factors Nkt and Ndu:	15.0 8.0
Cn Exp. and Limits:	0.50 0.00 1.70
Qc1 Exp. and Limits:	0.50 0.00 1.70
State Parameter M:	1.20
NC Su / p':	0.30
Relative Density Method:	All Sands - Jamilokowski (1985)
Phi Angle Method:	Kulhawy and Mayne (1990)
Youngs Modulus Sand Type:	Recent
N160lc Method:	Based on qc1n

Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (Ic)	N160 (Ic)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
m	ft	m	ft	tsf	tsf	ft	%						pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa		%	%	deg			tsf	tsf	tsf		MPa		
0.050	0.164	-0.050	-0.164	83.976	0.010	7.350	0.012	9	0	9	0	0	124.097	0.010	0.010	0.000	0.000	1.700	16.090	27.353	0.000	0.000	8250.169	0.012	83.966	0.003	0.003	8227.627	8.023	8228.627	1.508	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.676	136.763	136.763
0.100	0.328	-0.100	-0.328	630.029	0.010	6.290	0.002	10	0	10	0	0	127.279	0.020	0.020	0.000	0.000	1.700	100.595	171.011	0.000	0.000	30754.059	0.002	630.009	0.000	0.000	30744.475	60.338	30745.475	1.645	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	102.607	1026.066	1026.066

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ConeTec CPT Interpretations		
Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011		
DAS Version: W47		
Interpretation Format:	All but Liquefaction Parameters (NLI)	
Run ID:	1347638843	
Job No:	12-972	
Client:	TertaTech	
Project:	Dump Road	
Facility:	Dump Road	
Sounding ID:	DR-CPT-03	
Cone ID:	167:T1500F15U500	
Operator:	TS-TW	
CPT Date:	Aug-31-2012	
CPT Time:	07:39	
CPT File:	972CP03.COR	
Tip Units:	tsf	
Sleeve Units:	tsf	
PP Units:	ft	
Tip Conversion to bar:	0.9580	
Sleeve Conversion to bar:	0.9580	
PP Conversion to meters:	0.3050	
Col 5 (Extra Module) Parameter	N/A	
Col 5 (Extra Module) Units	N/A	
Coord Source:		
Coord Type:		
UTM Zone:	N/A	
Easting / Long:	76.410850	
Northing / Lat:	39.325050	
Elevation:	0.000	
Tip Net Area Ratio:	0.80	
Unit Weight of Soil Base:	Based on Soil Zones	
Unit Weight of Soil (Def):	18.64 kN/m^3	118.62 pcf
Unit Weight of Water:	9.81 kN/m^3	62.43 pcf
Equilibrium U Profile Used:	No	
Soil Unit Weight Profile Used:	No	
Water Table	30.48 m	100.00 ft
Averaging Interval:	0.00 m	0.00 ft
Su Factors Nkt and Ndu:	15.0	8.0
Cn Exp. and Limits:	0.50	0.00 1.70
Qc1 Exp. and Limits:	0.50	0.00 1.70
State Parameter M:	1.20	
NC Su / p':	0.30	
Relative Density Method:	All Sands - Jamilokowski (1985)	
Phi Angle Method:	Kulhawy and Mayne (1990)	
Youngs Modulus Sand Type:	Recent	
N160Ic Method:	Based on qc1n	

Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (Ic)	N160 (Ic)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
m	ft	m	ft	tsf	tsf	ft	%						pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa		%	%	deg			tsf	tsf	tsf		MPa		
0.050	0.164	-0.050	-0.164	15.521	0.278	3.340	1.791	6	0	6	0	0	114.551	0.009	0.009	0.000	0.000	1.700	5.948	10.111	0.000	0.000	1651.108	1.792	15.511	0.007	0.007	1640.011	1.477	1641.011	2.539	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.528	25.277	25.277
0.100	0.328	-0.100	-0.328	43.370	0.409	3.220	0.943	7	0	8	0	0	117.733	0.019	0.019	0.000	0.000	1.700	13.850	23.544	0.000	0.000	2291.334	0.943	43.351	0.002	0.002	2286.022	4.145	2287.022	2.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.063	70.633	70.633
0.150	0.492	-0.150	-0.492	63.562	0.518	11.520	0.815	8	0	8	0	0	120.915	0.029	0.029	0.000	0.000	1.700	15.223	25.879	0.000	0.000	2213.266	0.815	63.533	0.006	0.006	2200.740	6.055	2201.740	1.843	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.352	103.517	103.517
0.200	0.656	-0.200	-0.656	92.998	0.725	6.070	0.780	8	0	9	0	0	120.915	0.039	0.039	0.000	0.000	1.700	22.273	37.864	0.000	0.000	2406.891	0.780	92.959	0.002	0.002	2401.986	8.891	2402.986	1.703	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.146	151.456	151.456
0.250	0.820	-0.250	-0.820	104.640	1.188	6.410	1.135	8	0	9	0	0	120.915	0.049	0.049	0.000	0.000	1.700	25.061	42.604	0.000	0.000	2154.809	1.136	104.591	0.002	0.002	2150.687	10.005	2151.687	1.778	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.042	170.417	170.417
0.300	0.984	-0.300	-0.984	118.492	1.252	8.270	1.057	8	0	9	0	0	120.915	0.058	0.058	0.000	0.000	1.700	28.379	48.244	0.000	0.000	2026.053	1.057	118.433	0.002	0.002	2021.637	11.327	2022.637	1.718	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.298	192.975	192.975
0.350	1.148	-0.350	-1.148	151.107	0.010	9.200	0.007	9	0	9	0	0	124.097	0.069	0.069	0.000	0.000	1.700	28.952	49.219	0.000	0.000	2204.881	0.007	151.039	0.002	0.002	2200.689	14.449	2201.689	1.444	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	24.609	246.094	246.094
0.400	1.312	-0.400	-1.312	454.154	0.010	11.840	0.002	10	0	10	0	0	127.279	0.079	0.079	0.000	0.000	1.700	72.513	123.273	0.000	0.000	5761.642	0.002	454.075	0.001	0.001	5756.952	43.473	5757.952	1.558	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	73.964	739.635	739.635

CoreTec ET Interpretations
Interpretation Output - SCREAM Version 0.96X - Mar 8 2011
QAQ Version: WX
Interpretation Format: All but Liquefaction Parameters (NLI)
Run ID: 13AUG8W0
Job No: 13-WO
Client: Tonia Tech
Project: Dump Road
Facility: Dump Road
Sounding ID: DR4-CPT-04
Date ID: 13-T13SEP-152020
Operator: CS-TW
CPT Date: 13sep-05-2013
CPT Time: 20:42
CPT File: 4TQCP04.COR

Tip Units:	tsf
Sleeve Units:	tsf
Pp Units:	psi
Tip Conversion to bar:	0.0585
Sleeve Conversion to bar:	0.0585
Pp Conversion(0 Index):	0.0703
Cpt Tip (Lotts Module):	N/A
Cpt Sleeve (Lotts Module):	N/A
Cpt Pp:	
Sound Source:	
Sound Type:	
UTM Zone:	N/A
Sounding Lump:	78-4420'00
Sounding Lon:	122.32400
Elevation:	0.000
Tip Net Area Ratio:	0.80

Unit Weight of Soil Base:	Based on Soil Zones		
Unit Weight of Soil (Soil):	18.00	Above Gw	118.00 pcf
Unit Weight of Water:	9.81	Below Gw	62.40 pcf
Equilibrium (1 Profile Used):	Yes		
Soil Unit Weight Profile Used:	Yes		
Water Table:	2.74	9.00	
Sweeping Allowed:	0.00	0.00	
	0.00	0.00	

Gw Factors NM and Max:	0.0	0.0
Cn Exp. and Limits:	0.50	0.00 1.70
Qc1 Exp. and Limits:	0.50	0.00 1.70
Beta Parameter M:	1.00	
Pc Soil P:	0.30	
Relative Density Method:	All Cands. - Jamiolkowski (1985)	
Phi Angle Method:	Lunne and Meyne (1982)	
Gamma Methane Sand Type:	Decent	
Vs1Rd Method:	Based on Qc1N	

Depth	Depth	Incr	Incr	Avg Qt	Avg fs	Avg u	Avg Rf	Sdt1	Sdt1i	Sdt1 Bq	Sdt1 Bqn	Sdt1 Den50	Sdt1 Vs	Thickness	bSeismic	EquivN	EquivQc	Cn	Nd60	N1(60)	N60 (k)	N1(60) (k)	Norm. Qt	Norm. Fr	Ic(cgf)	Delta Ug2	Eq	Qc1 cpt	qc	qcNorm	Ic	FC	Sn	Fn	Sand Fact	Kc(qc)	kc	Sn (Ref)	Sn Ref	DCR	qc1 (CN)	qc1	qc1n
ft	m	ft	m	tsf	tsf	tsf	%	ft	m	ft	m	ft	ft/s	ft	ft	ft	tsf	tsf	bpf	bpf	bpf	bpf	tsf	tsf	tsf	tsf	MPa	tsf	MPa	tsf	%	%	tsf	deg								
0.650	0.198	0.650	0.198	9.438	0.241	2.636	2.856	4	8	5	7	8	114.551	0.000	0.000	0.000	1.700	5.369	9.161	0.000	0.000	897.140	2.959	8.429	0.010	0.010	887.745	0.890	886.749	2.872	0.000	92.686	36.118	0.036	0.000	0.000	0.000	0.000	1.374	13.742	13.742
0.800	0.244	0.800	0.244	9.780	0.241	2.636	2.465	4	8	5	7	8	114.551	0.000	0.000	0.000	1.700	11.450	19.533	0.000	0.000	1912.600	3.575	8.966	0.011	0.011	1894.681	0.875	1894.549	2.275	0.000	92.686	36.118	0.036	0.000	0.000	0.000	0.000	4.883	48.832	48.832
0.150	0.492	0.150	0.492	59.897	0.530	9.070	0.888	8	8	8	8	8	120.913	0.028	0.028	0.000	1.700	14.297	24.395	0.000	0.000	2597.692	0.888	59.968	0.005	0.005	2007.738	5.692	2068.739	1.887	0.000	0.000	0.000	0.000	0.000	0.000	9.722	97.220	97.222
0.300	0.914	0.300	0.914	84.467	1.000	11.378	1.378	9	9	9	9	9	120.913	0.028	0.028	0.000	1.700	20.232	34.457	0.000	0.000	3521.277	1.378	84.444	0.005	0.005	2218.402	5.692	2284.602	1.900	0.000	0.000	0.000	0.000	0.000	0.000	13.759	137.587	137.587
0.500	0.610	0.200	0.610	84.467	1.000	11.378	1.378	9	9	9	9	9	120.913	0.028	0.028	0.000	1.700	20.232	34.457	0.000	0.000	3521.277	1.378	84.444	0.005	0.005	2218.402	5.692	2284.602	1.900	0.000	0.000	0.000	0.000	0.000	0.000	13.759	137.587	137.587
0.650	0.810	0.250	0.820	95.937	1.433	12.384	1.491	9	9	9	9	9	120.913	0.048	0.048	0.000	1.700	22.986	39.077	0.000	0.000	3987.022	1.492	95.929	0.004	0.004	1979.648	9.158	1980.048	1.890	0.000	0.000	0.000	0.000	0.000	0.000	15.604	156.398	156.398
0.800	0.980	0.150	0.984	101.623	1.546	13.185	1.521	9	9	9	9	9	117.723	0.048	0.048	0.000	1.700	21.956	37.373	0.000	0.000	3799.141	1.636	99.381	0.004	0.004	1778.218	9.158	1778.218	1.810	0.000	0.000	0.000	0.000	0.000	0.000	16.160	161.611	161.611
0.950	1.148	0.150	1.148	103.680	1.823	0.005	1.763	7	0	9	0	0	117.723	0.048	0.048	0.000	1.700	22.470	38.200	0.000	0.000	3930.524	1.794	101.614	0.004	0.004	1930.205	9.740	1931.205	1.933	0.000	0.000	0.000	0.000	0.000	0.000	16.560	165.599	165.599
0.950	1.297	0.000	1.297	105.843	1.823	0.005	1.722	7	0	9	0	0	117.723	0.077	0.077	0.000	1.700	22.961	39.035	0.000	0.000	4015.768	1.835	103.819	0.004	0.004	1962.324	9.316	1963.324	2.111	0.000	0.000	0.000	0.000	0.000	0.000	17.247	172.474	172.474
0.400	1.476	0.450	1.476	107.135	2.693	15.888	2.690	7	0	9	0	0	117.723	0.067	0.067	0.000	1.700	34.213	58.162	0.000	0.000	5720.050	2.692	107.052	0.005	0.005	1204.381	10.216	1225.241	2.057	0.000	0.000	0.000	0.000	0.000	0.000	17.449	174.487	174.487
0.500	1.640	0.500	1.640	112.858	3.192	0.000	2.829	6	0	9	0	0	114.551	0.067	0.067	0.000	1.700	43.240	73.518	0.000	0.000	7237.809	3.831	112.758	0.005	0.005	1158.081	10.814	1169.081	2.061	0.000	0.000	0.000	0.000	0.000	0.000	18.360	183.795	183.795
0.650	1.804	0.150	1.804	120.202	3.192	0.000	2.657	6	0	9	0	0	117.723	0.067	0.067	0.000	1.700	43.240	73.518	0.000	0.000	7237.809	3.831	120.176	0.005	0.005	1139.427	11.488	1151.427	1.999	0.000	0.000	0.000	0.000	0.000	0.000	18.589	185.891	185.891
0.600	1.968	0.600	1.968	86.059	2.410	0.000	2.800	6	8	9	7	8	114.551	0.116	0.116	0.000	1.700	32.976	56.063	0.000	0.000	7413.634	2.804	85.944	0.001	0.001	743.690	9.250	744.890	2.129	0.000	93.279	41.213	0.047	1.946	187.936	0.000	0.000	14.018	140.158	140.159
0.650	2.133	0.050	2.133	89.180	1.750	0.000	2.467	5	8	8	7	8	114.551	0.125	0.125	0.000	1.700	35.510	60.377	0.000	0.000	7417.598	2.481	89.071	0.000	0.000	512.328	9.418	513.128	2.140	0.000	95.909	43.171	0.055	2.071	141.292	0.000	0.000	11.269	112.691	112.691
0.750	2.297	0.700	2.297	49.833	1.897	0.480	3.807	5	8	8	7	8	114.551	0.116	0.134	0.000	1.700	23.870	40.579	0.000	0.000	3934.796	3.917	49.999	0.000	0.000	369.695	4.777	370.695	2.284	0.000	75.460	38.603	0.597	2.325	115.913	0.000	0.000	8.314	81.158	81.158
0.750	2.461	0.750	2.461	42.070	1.600	0.480	3.777	5	8	8	7	8	114.551	0.134	0.140	0.000	1.700	20.154	34.261	0.000	0.000	3322.613	3.790	41.821	0.000	0.000	291.809	4.030	292.809	2.245	0.000	71.564	37.794	0.559	2.029	101.635	0.000	0.000	6.852	68.523	68.523
0.650	2.625	0.850	2.625	28.968	1.207	0.890	4.512	4	9	7	7	8	114.551	0.153	0.153	0.000	1.700	18.503	31.451	0.000	0.000	3189.104	4.636	28.918	0.000	0.000	189.588	2.781	189.588	2.596	0.000	58.035	35.011	0.932	3.030	87.857	0.000	0.000	4.716	47.177	47.177
0.650	2.789	0.650	2.789	36.337	1.607	0.890	4.430	5	8	8	7	8	114.551	0.153	0.153	0.000	1.700	23.534	40.000	0.000	0.000	4058.452	4.636	37.534	0.000	0.000	255.000	2.326	255.000	2.531	0.000	64.297	35.525	0.412	2.199	93.479	0.000	0.000	4.282	42.816	42.816
0.650	2.953	0.950	2.953	20.608	0.522	0.400	2.531	5	5	7	6	6	114.551	0.172	0.172	0.000	1.700	9.881	16.797	0.179	0.003	1139.946	2.532	20.456	0.001	0.001	119.018	1.877	120.018	2.535	0.000	32.259	40.644	16.389	0.223	3.587	73.600	0.000	0.000	3.359	33.596	33.594
0.950	3.117	0.950	3.117	18.339	0.422	0.100	2.301	5	5	6	6	6	114.551	0.181	0.181	0.000	1.700	8.765	14.904	0.035	0.079	1010.117	2.324	18.158	0.000	0.000	100.138	1.757	101.138	2.549	0.000	32.904	42.511	33.827	0.297	3.000	73.600	0.000	0.000	2.987	29.868	29.868
0.950	3.286	0.950	3.286	19.382	0.422	0.100	2.176	5	5	6	6	6	114.551	0.181	0.181	0.000	1.700	8.765	14.904	0.035	0.079	1010.117	2.324	19.158	0.000	0.000	100.138	1.757	101.138	2.549	0.000	32.904	42.511	33.827	0.297	3.000	73.600	0.000	0.000	2.987	29.868	29.868
0.950	3.445	0.950	3.445	15.601	0.340	0.690	2.179	5	5	6	6	6	114.551	0.200	0.200	0.000	1.700	7.475	12.707	0.025	0.043	763.961	2.207	15.454	0.002	0.002	77.066	1.498	78.066	2.590	0.000	34.885	30.470	30.056	0.250	3.000	73.600	0.000	0.000	2.541	25.413	25.413
0.950	3.609	0.950	3.609	12.381	0.270	0.100	2.209	5	5	6	6	6	114.551	0.219	0.219	0.000	1.700	5.930	10.082	0.020	0.027	516.992	2.208	12.371	0.000	0.000	58.008	1.188	59.042	2.676	39.294	0.000	31.962	0.232	0.000	0.000	2.010	20.102	20.102
0.950	3.773	0.950	3.773	11.005	0.182	0.750	1.654	5	5	6	6	6	114.551	0.219	0.219	0.000	1.700	5.271	8.961	0.022	0.007	459.292	1.687	10.788	0.025	0.025	48.014	1.039	49.014	2.647	37.710	0.000	31.387	0.166	0.000	0.000	1.792	17.920	17.922
0.950	3.937	0.950	3.937	10.300	0.151	0.690	1.469	5	5	6	6	6	114.551	0.228	0.228	0.000	1.700	4.930	8.378	0.018	0.000	429.722	1.469	9.948	0.025	0.025	42.930	0.993	43.930	2.635	31.813	0.000	31.208	0.000	0.000	0.000	1.757	17.572	17.572
0.950	4.101	0.950	4.101	10.128	0.079	0.000	0.781	5	5	5	5	5	114.551	0.228	0.228	0.000	1.700	4.930	8.378	0.018	0.000	429.722	0.781	9.960	0.000	0.000	38.067	0.890	39.067	2.494	20.407	0.000	20.961	0.000	0.000	0.000	1.649	16.495	16.495
0.950	4.265	0.950	4.265	9.953	0.000	0.000	0.451	5	5	5	5	5	114.551	0.228	0.228	0.000	1.700	3.811	6.482	0.000	0.000	332.554	0.000	9.702	0.000	0.000	34.600	0.863	35.600	2.440	19.143	0.000	20.905	0.000	0.000	0.000	1.602	16.020	16.020
0.950	4.429	0.950	4.429	10.153	0.001	0.000	0.000	5	5	5	5	5	114.551	0.257	0.257	0.000	1.700	3.890	6.614	0.468	0.196	346.578	0.016	9.866	0.129	0.129	33.466	0.847	34.464	2.498	19.241	0.000	21.002	0.048	0.000	0.000	1.653	16.534	16.534
0.950	4.593	0.950	4.593	11.740	0.067	0.000	0.562	5	5	5	5	5	114.551	0.268	0.268	0.000	1.700	4.501	7.652	0.017	0.000	399.512	0.562	11.474	0.148	0.148	39.548	0.957	37.548	2.478	19.668	0.000	21.096	0.061	0.000	0.000	1.912	19.120	19.120
0.950	4.757	0.950	4.757	13.668	0.221	0.100	1.654	5	5	5	5	5	114.551	0.278	0.278	0.000	1.700	5.556	11.148	0.484	0.502	49.736	1.647	13.423	0.155	0.153	41.274	1.133	42.273	2.562	33.555	0.000	32.431	0.148	0.000	0.000	2.220	22.206	22.206
0.950	4.921	0.950	4.921	18.869	0.410	57.580	2.173	5	5	6	6	6	114.551	0.285	0.285	0.000	1.700	9.038	15.365	0.714	9.914	93.277	2.200	18.585	0.095	0.097	58.968	1.638	59.967	2.525	31.807	39.895	33.963	0.220	0.706	69.964	0.000	0.000	3.073	30.732	30.733
0.950	5.085	0.950	5.085	27.040	0.650	60.060	2.404	5	5	6	6	6	114.551	0.296	0.296	0.000	1.700	13.299	22.645	0.000	0.000	1466.117	2.404	26.611	0.000	0.000	77.386	2.410	80.386	2.679	44.613	0.000	34.748	0.271	0.000	0.000	3.293	32.930	32.930
0.650	5.249	0.800	5.249	49.363	1.290	99.320	2.613	8	8	7	6	6	114.551	0.304	0.304	0.000	1.700	18.916	32.167	0.000	10.068	18.645	151.647	2.629	49.059	0.044	0.044	154.517	4.520	155.517	2.267	21.306	93.514	36.557	0.292	2.334	115.272	0.000	0.000	9.039	90.390	90.392
0.650	5.413	0.650	5.413	73.867	1.760	99.700	2.414	8	8	7	6	6	114.551	0.324	0.324	0.000	1.700	23.586	40.100	0.000	0.000	334.980	3.434	73.304	0.005	0.005	2153.011	7.043	2154.911	2.120	0.000	93.493	0.000	0.000	0.000	0.000	12.000	120.300	120.300
0.750	5.577	0.750	5.577	75.137	2.141	0.280	2.849	6	8	8	7	8	114.551	0.323	0.323	0.000	1.700	28.760	48.947	0.000	0.000	2314.949	2.982	74.954	0.000	0.000	222.488	7.214	223.492	2.173	0.000	74.682	40.564	0.430	2.022	151.940	0.000	0.000	12.227	122.268	122.269
0.750	5.741	0.750	5.741	61.307	2.011	0.280	3.280	6	8	8	7	8	114.551	0.342	0.342	0.000	1.700	29.259	49.757	0.000	0.000	2353.082	3.692	60.714	0.000	0.000	183.203	7.851	184.203	2.140	0.000	68.346	39.577	0.512	2.154	131.682	0.000	0.000	11.167	111.670	111.670
0.800	5.905	0.800	5.905	49.514	2.602	2.790	5.255	3	9	8	8	8	111.368	0.343	0.343	0.000	1.700	47.452	80.669	0.000	0.000	3149.199	5.292	49.181	0.002	0.002	144.438	4.754	145.434	2.494	0.000	51.834	39.574	0.671	2.101	115.507	0.000	0.000	8.067	80.669	80.669
0.800	6.069	0.800	6.069	36.452	2.322	1.760	6.370	3	9	8	8	8	111.368	0.360	0.360	0.000	1.700	34.772	59.109	0.000	0.000	2308.723	6.436	36.942	0.002	0.002	113.890	5.782	114.890	2.586	0.000	27.576	0.736	0.585	2.111	101.141	0.000	0.000	7.082	70.824	70.824
0.800	6.234	0.800	6.234	29.815	1.757	4.610	5.891	3	9	7	6	6	111.368	0.360	0.360	0.000	1.700	28.620	48.654	0.000	0.000	2218.019	5.953	29.515	0.004	0.004	63.458	2.874	63.454	2.675	0.000	48.096	35.158	0.688	2.883	89.144	0.000	0.000	4.883	48.654	48.654
0.800	6.398	0.800	6.398	12.175	0.165	0.000	1.358	5	5	5	5	5	111.368	0.369	0.369	0.000	1.700	11.497	19.465	0.000	0.000	1509.657	1.358	11.769	0.014	0.014	59.928	2.151	60.928	2.784	0.000	93.772	42.679	0.894	3.471	73.664	0.000	0.000	5.383	53.831	53.831
0.800	6.562	0.800	6.562	27.368	1.494	8.200	5.353	3	9	7	6	6	111.368	0.378	0.378	0.000	1.700	26.746	44.461	0.000	0.000	2139.772	5.425	27.541	0.009	0.009	73.592	2.699	74.592	2.665	0.000	44.042	35.709	0.554	3.122	87.201	0.000	0.000	4.446	44.460	44.460
0.650	6.726	0.650	6.726	87.804	1.577	21.450	1.800	7	8	8	7	8	117.731	0.387	0.387	0.000	1.700	27.970	45.936	17.260	28.553	2151.298	1.939	87.217	0.006	0.006	222.038	9.228	224.938	1.998	12.632	76.488	41.132	0.230	1.955	171.358	0.000	0.000	13.761	137.608	137.608
0.650	6.890	0.650	6.890	92.407	1.577	22.554	1.706	7	8	8	7	8	117.731	0.387	0.387	0.000	1.700	29.414	48.344	18.786	30.615	2264.007	1.835	91.814	0.006	0.006	233.615	9.228	236.515	2.024	12.911	80.501	41.743	0.901	2.057	180.276	0.000	0.000	14.482	144.819	144.819
0.650	7.054	0.650	7.054	150.449	1.545	9.270	1.027	9	6	9	7	7	124.097	0.407	0.407	0.000	1.700	29.832	48.176	26.505	42.448	3684.764	1.029	150.075	0.002	0.002	369.475	14.444	370.475	1.656	5.304	91.259	43.997	0.314	3.000	242.249	0.000	0.000	23.098	230.983	230.983
0.650	7.218	0.650	7.218	151.139	1.545	9.270	1.023	9	6	9	7	7	124.097	0.426	0.426	0.000	1.700	29.832	48.176	26.764	42.884	3720.153	1.023	150.727	0.002	0.002	372.983	14.444	373.983	1.713	5.304	91.259	43.997	0.314	3.000	242.249	0.000	0.000	23.098	230.983	230.983
0.650	7.382	0.650	7.382	143.518	1.960	10.550	1.348	8	6	9	7	7	124.097	0.445	0.445	0.000	1.700	28.227	45.601	25.921	41.532	3591.535	1.349	143.197	0.002	0.002	351.298	13.583	352.298	1.788	7.477	88.810	43.180	0.335	3.000	242.249	0.000	0.000	21.302	212.914	212.914
0.650	7.546	0.650	7.546	131.418	1.960	10.550	1.492	8	6	9	7	7	124.097	0.464	0.464	0.000	1.700	27.318	44.152	24.338	39.835	3475.917	1.492	131.078	0.002	0.002	321.618	13.583	322.618	1.744	7.477	88.810	43.180	0.335	3.000	242.249	0.000	0.000	19.503	194.946	194.946
0.650	7.710	0.650	7.710	113.713	2.518	10.990	2.214	7	6	9	7	7	117.723	0.417	0.417	0.000	1.700	26.316	95.517	22.707	36.713	2910.619	2.223	113.275	0.003	0.003	254.387	10.927	255.387	2.003	13.043	81.896	42.027	0.394	1.979	213.763	0.000	0.000	16.855	168.552	168.552
0.650	7.874	0.650	7.874	87.797	2.518	10.990	2.866	7	6	9	7	7	117.723	0.436	0.436	0.000	1.700	25.785	44.853	22.252	35.992	2850.722	2.866	87.597	0.003	0.003	193.297	10.927	194.297	1.966	13.043	81.896	42.027	0.394	1.979	213.763	0.000	0.000	12.827	128.268	128.268
0.650	8.038	0.650	8.038	69.919	3.689	9.740	5.811	11	9	8	8	8	111.368	0.360	0.360	0.000	1.700	25.253	43.923	21.796	35.274	2791.826	5.811	69.453	0.006	0.006	143.193	6.449	144.193	2.483	0.000	28.491	0.799	1.181	149.037	0.000	0.000	6.429	64.296	64.296
0.650	8.202	0.650	8.202	55.779	4.200	0.190	7.530	3	9	8	8	8	111.368	0.378	0.378	0.000	1.700	24.722	40.872	9.912	13.528	56.591	6.514	37.980	0.016	0.016	57.928	3.752	58.928	2.575	34.162	49.299	35.922	0.387	3.059	118.448	0.000	0.000	4.631	46.309	50.612
0.650	8.366	0.650	8.366	34.273	1.387	0.000	4.048	4	9	7	7	8	111.368	0.395	0.395	0.000	1.700	23.534	40.000	0.000	0.000	3772.735	4.048	34.273	0.000	0.000	255.000	2.326	255.000	2.531	0.000	64.297	35.525	0.412	2.199	93.479	0.000	0.000	4.282	42.816	42.816
0.650	8.530	0.650	8.530	67.669	3.447	4.580	5.092	11	9	8	8	8	111.368	0.395	0.395	0.000	1.700	24.310	42.306	20.229	33.402	2693.626	5.092	67.232	0.006	0.006	138.493	6.471	139.493	2.442	0.000	55.547	36.312	0.628	2.196	148.679	0.000	0.000	6.429	64.296	64.296
0.650	8.694	0.650	8.694	124.731	3.319	0.000	2.661	6	9	8	8	8	111.368	0.413	0.413	0.000	1.700	44.896	77.705	0.000	0.000	7237.461	2.661	124.552	0.005	0.005	1263.139	9.741	1264.139	1.947	0.000	91.962	37.573	0.615	2.016	144.506	0.000	0.000	18.547	185.468	185.468
0.650	8.858	0.650	8.858	104.001	1.826	0.520	1.447	8	6	9	7	7	120.913	0.515	0.515	0.000	1.700	44.896	77.705	32.093	48.484	5512.120	1.447	103.665	0.000	0.000	259.219	12.842	260.219	1.836	8.902	94.556	42.480	0.320	1.963	253.052	0.000	0.000	18.274	182.738	182.739
0.650	9.022	0.650	9.022	99.618	2.579	0.520	2.589	8	6	9	7	7	120.913	0.534	0.534	0.000	1.700	43.240	74.826	30.918	46.715	5309.599	2.589	99.111	0.000	0.000	249.699	12.842	250.699	1.830	8.902	94.556	42.480	0.320	1.963	253.052	0.000	0.000	17.602	176.018	176.018
0.650	9.186	0.650	9.186	99.278	2.796	18.600	2.868	6	6	9	7	7	114.551	0.515	0.529	0.000	1.700	41.583	71.940	30.209	45.000	5105.444	2.815	92.742	0.006	0.006	174.207	8.888	175.207	2.183	0.000	73.892	40.688	0.409	2.607	197.271	0.000	0.000	12.557	125.578	125.574
0.650	9.350	0.650	9.350	99.422	2.796	18.600	2.812	6	6	9	7	7	120.913	0.534	0.534	0.000	1.700	41.583	71.940	30.209	45.000	5105.444	2.812	92.574	0.006	0.006	174.207	8.888	175.207	2.183	0.000	73.892	40.688	0.409	2.607	197.271	0.000	0.000	12.557	125.578	125.574
0.650	9.514	0.650	9.514	240.648	2.427	0.700	1.009	9	6	9	7	7	124.097	0.554	0.554	0.000	1.700	44.896	77.705	0.000	0.000	7237.461	1.009	240.089	0.000	0.000	448.398	23.062	447.398	1.558	3.697	0.000	45.173	0.930	0.000	0.000	32.116	321.097	321.097
0.650	9.678	0.650	9.678	99.422	2.579	0.520	2.595	8	6	9	7	7	120.913	0.573	0.573	0.000	1.700	43.240	74.826	29.706	44.304	5014.164	2.595	99.111	0.000	0.000	249.699	12.842	250.699	1.830	8.902	94.556	42.480	0.320	1.963	253.052	0.000	0.000	17.602	176.018	176.018
0.650	9.842	0.650	9.842	99.278	2.796	18.600

ConeTec CPT Interpretations	
Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011	
DAS Version: W47	
Interpretation Format:	All but Liquefaction Parameters (NLI)
Run ID:	1347638855
Job No:	12-972
Client:	TertaTech
Project:	Dump Road
Facility:	Dump Road
Sounding ID:	DR-CPT-05
Cone ID:	167:T1500F15U500
Operator:	TS-TW
CPT Date:	Aug-31-2012
CPT Time:	08:28
CPT File:	972CP05.COR
Tip Units:	tsf
Sleeve Units:	tsf
PP Units:	ft
Tip Conversion to bar:	0.9580
Sleeve Conversion to bar:	0.9580
PP Conversion to meters:	0.3050
Col 5 (Extra Module) Parameter	N/A
Col 5 (Extra Module) Units	N/A
Coord Source:	
Coord Type:	
UTM Zone:	N/A
Easting / Long:	76.410100
Northing / Lat:	39.324510
Elevation:	0.000
Tip Net Area Ratio:	0.80
Unit Weight of Soil Base:	Based on Soil Zones
Unit Weight of Soil (Def):	18.64 kN/m^3 118.62 pcf
Unit Weight of Water:	9.81 kN/m^3 62.43 pcf
Equilibrium U Profile Used:	No
Soil Unit Weight Profile Used:	No
Water Table	2.74 m 9.00 ft
Averaging Interval:	0.00 m 0.00 ft
Su Factors Nkt and Ndu:	15.0 8.0
Cn Exp. and Limits:	0.50 0.00 1.70
Qc1 Exp. and Limits:	0.50 0.00 1.70
State Parameter M:	1.20
NC Su / p':	0.30
Relative Density Method:	All Sands - Jamilokowski (1985)
Phi Angle Method:	Kulhawy and Mayne (1990)
Youngs Modulus Sand Type:	Recent
N160lc Method:	Based on qc1n

Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (Ic)	N160 (Ic)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
m	ft	m	ft	tsf	tsf	ft	%						pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa			%	%	deg			tsf	tsf	tsf		MPa		
0.050	0.164	-0.050	-0.164	13.715	0.166	3.960	1.210	6	0	6	0	0	114.551	0.009	0.009	0.000	0.000	1.700	5.255	8.934	0.000	0.000	1458.856	1.211	13.705	0.009	0.009	1445.699	1.302	1446.699	2.489	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.234	22.336	22.336
0.100	0.328	-0.100	-0.328	26.360	0.252	6.380	0.956	7	0	7	0	0	117.733	0.019	0.019	0.000	0.000	1.700	8.418	14.310	0.000	0.000	1392.253	0.957	26.341	0.008	0.008	1381.728	2.506	1382.728	2.195	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.293	42.930	42.930

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
57	0.150	0.492	-0.150	-0.492	40.289	0.358	6.180	0.889	7	0	8	0	0	117.733	0.029	0.029	0.000	0.000	1.700	12.865	21.871	0.000	0.000	1408.916	0.889	40.260	0.005	0.005	1402.166	3.841	1403.166	2.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.561	65.614	65.614
58	0.200	0.656	-0.200	-0.656	63.720	0.629	6.450	0.987	8	0	8	0	0	120.915	0.038	0.038	0.000	0.000	1.700	15.261	25.944	0.000	0.000	1660.062	0.988	63.682	0.003	0.003	1654.813	6.085	1655.813	1.895	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.377	103.775	103.775
59	0.250	0.820	-0.250	-0.820	76.510	1.322	1.670	1.728	7	0	8	0	0	117.733	0.048	0.048	0.000	0.000	1.700	24.432	41.535	0.000	0.000	1588.095	1.729	76.462	0.001	0.001	1587.012	7.325	1588.012	2.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.460	124.605	124.605
60	0.300	0.984	-0.300	-0.984	77.481	1.535	5.020	1.981	7	0	8	0	0	117.733	0.058	0.058	0.000	0.000	1.700	24.742	42.062	0.000	0.000	1339.445	1.983	77.424	0.002	0.002	1336.734	7.408	1337.734	2.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.619	126.186	126.186
61	0.350	1.148	-0.350	-1.148	109.403	1.099	10.160	1.005	8	0	9	0	0	120.915	0.068	0.068	0.000	0.000	1.700	26.202	44.544	0.000	0.000	1617.664	1.005	109.336	0.003	0.003	1612.972	10.450	1613.972	1.726	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.817	178.174	178.174
62	0.400	1.312	-0.400	-1.312	131.760	1.213	14.470	0.921	9	0	9	0	0	124.097	0.078	0.078	0.000	0.000	1.700	25.245	42.917	0.000	0.000	1696.162	0.921	131.683	0.003	0.003	1690.344	12.579	1691.344	1.643	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.458	214.585	214.585
63	0.450	1.476	-0.450	-1.476	137.955	1.345	0.790	0.975	9	0	9	0	0	124.097	0.088	0.088	0.000	0.000	1.700	26.432	44.935	0.000	0.000	1570.005	0.976	137.867	0.000	0.000	1569.725	13.214	1570.725	1.647	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22.467	224.673	224.673
64	0.500	1.640	-0.500	-1.640	107.207	1.310	2.700	1.222	8	0	9	0	0	120.915	0.098	0.098	0.000	0.000	1.700	25.676	43.649	0.000	0.000	1094.511	1.223	107.109	0.001	0.001	1093.650	10.262	1094.650	1.794	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.460	174.597	174.597
65	0.550	1.804	-0.550	-1.804	129.574	1.524	3.770	1.176	8	0	9	0	0	120.915	0.108	0.108	0.000	0.000	1.700	31.033	52.756	0.000	0.000	1201.242	1.177	129.466	0.001	0.001	1200.150	12.402	1201.150	1.726	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.102	211.023	211.023
66	0.600	1.968	-0.600	-1.968	135.147	1.248	-0.460	0.923	9	0	9	0	0	124.097	0.118	0.118	0.000	0.000	1.700	25.894	44.020	0.000	0.000	1146.029	0.924	135.029	-0.000	-0.000	1146.151	12.948	1147.151	1.636	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22.010	220.101	220.101
67	0.650	2.133	-0.650	-2.133	122.097	0.888	1.080	0.727	9	7	9	7	8	124.097	0.128	0.128	0.000	0.000	1.700	23.394	39.769	21.064	35.809	952.873	0.728	121.969	0.000	0.000	952.610	11.694	953.610	1.595	4.277	0.000	42.884	-0.365	2.026	247.438	0.000	0.000	0.000	19.885	198.847	198.847
68	0.700	2.297	-0.700	-2.297	110.534	0.762	0.700	0.689	9	7	9	7	8	124.097	0.138	0.138	0.000	0.000	1.700	21.178	36.003	19.176	32.599	798.939	0.690	110.396	0.000	0.000	798.781	10.587	799.781	1.612	4.552	0.000	42.408	-0.343	1.893	209.331	0.000	0.000	0.000	18.002	180.016	180.016
69	0.750	2.461	-0.750	-2.461	104.945	0.690	0.780	0.657	9	7	9	7	8	124.097	0.148	0.148	0.000	0.000	1.700	20.107	34.183	18.229	30.990	706.386	0.658	104.797	0.000	0.000	706.222	10.051	707.222	1.615	4.615	0.000	42.161	-0.328	1.878	197.198	0.000	0.000	0.000	17.091	170.913	170.913
70	0.800	2.625	-0.800	-2.625	105.102	0.731	0.260	0.696	9	7	9	7	8	124.097	0.159	0.159	0.000	0.000	1.700	20.137	34.234	18.351	31.196	661.962	0.697	104.943	0.000	0.000	661.911	10.068	662.911	1.631	4.874	94.483	42.168	-0.327	1.878	197.503	0.000	0.000	0.000	17.117	171.169	171.169
71	0.850	2.789	-0.850	-2.789	83.919	0.802	1.370	0.956	8	6	9	7	8	120.915	0.169	0.169	0.000	0.000	1.700	20.098	34.167	15.513	26.371	496.796	0.958	83.750	0.001	0.001	496.542	8.035	497.542	1.795	8.023	87.150	41.092	-0.334	1.959	164.480	0.000	0.000	0.000	13.667	136.670	136.670
72	0.900	2.953	-0.900	-2.953	55.641	0.788	0.200	1.416	7	6	8	7	8	117.733	0.178	0.178	0.000	0.000	1.700	17.768	30.206	11.280	19.176	310.949	1.421	55.463	0.000	0.000	310.914	5.330	311.914	2.043	14.130	74.563	39.129	-0.336	2.226	123.923	0.000	0.000	0.000	9.062	90.617	90.617
73	0.950	3.117	-0.950	-3.117	31.871	0.586	-1.430	1.839	6	6	7	6	8	114.551	0.188	0.188	0.000	0.000	1.700	12.213	20.762	7.185	12.214	168.625	1.850	31.683	-0.001	-0.001	168.862	3.058	169.862	2.300	22.527	57.846	36.467	-0.309	2.885	91.996	0.000	0.000	0.000	5.191	51.905	51.905
74	1.000	3.281	-1.000	-3.281	18.227	0.571	-0.540	3.133	5	5	6	6	4	114.551	0.197	0.197	0.000	0.000	1.700	8.731	14.842	4.812	8.181	91.387	3.167	18.029	-0.001	-0.001	91.472	1.748	92.472	2.636	37.162	41.129	33.798	-0.338	0.000	0.000	0.000	0.000	0.000	2.968	29.684	29.684
75	1.050	3.445	-1.050	-3.445	12.487	0.529	1.120	4.236	3	4	6	6	4	111.369	0.207	0.207	0.000	0.000	1.700	11.963	20.336	3.695	6.282	59.455	4.308	12.280	0.003	0.003	59.286	1.193	60.286	2.848	48.818	0.000	31.991	-0.372	0.000	0.000	0.000	0.000	0.000	2.034	20.336	20.336
76	1.100	3.609	-1.100	-3.609	10.506	0.408	5.760	3.884	3	4	5	6	4	111.369	0.216	0.216	0.000	0.000	1.700	10.065	17.110	3.171	5.391	47.710	3.965	10.290	0.017	0.017	46.876	0.989	47.876	2.883	50.914	0.000	31.166	-0.306	0.000	0.000	0.000	0.000	0.000	1.711	17.110	17.110
77	1.150	3.773	-1.150	-3.773	8.638	0.261	12.450	3.022	4	4	5	5	4	114.551	0.225	0.225	0.000	0.000	1.700	5.517	9.378	2.611	4.438	37.399	3.102	8.413	0.045	0.046	35.671	0.790	36.671	2.885	51.038	0.000	30.230	-0.212	0.000	0.000	0.000	0.000	0.000	1.407	14.067	14.067
78	1.200	3.937	-1.200	-3.937	7.951	0.223	16.210	2.805	4	4	5	5	4	114.551	0.234	0.234	0.000	0.000	1.700	5.078	8.633	2.419	4.112	32.930	2.890	7.717	0.064	0.066	30.771	0.713	31.771	2.896	51.721	0.000	29.835	-0.182	0.000	0.000	0.000	0.000	0.000	1.295	12.949	12.949
79	1.250	4.101	-1.250	-4.101	11.256	0.187	26.650	1.661	5	5	5	6	5	114.551	0.244	0.244	0.000	0.000	1.700	5.392	9.166	2.978	5.063	45.182	1.698	11.013	0.074	0.076	41.770	0.999	42.770	2.641	37.370	0.000	31.495	-0.152	0.000	0.000	0.000	0.000	0.000	1.833	18.332	18.332
80	1.300	4.265	-1.300	-4.265	14.743	0.250	2.150	1.696	6	5	6	6	5	114.551	0.253	0.253	0.000	0.000	1.700	5.650	9.604	3.724	6.330	57.244	1.725	14.490	0.005	0.005	56.979	1.406	57.979	2.547	32.843	31.477	32.785	-0.186	0.000	0.000	0.000	0.000	0.000	2.401	24.011	24.011
81	1.350	4.429	-1.350	-4.429	9.643	0.248	-1.120	2.572	4	4	6	6	4	114.551	0.263	0.263	0.000	0.000	1.700	6.159	10.470	2.785	4.735	35.732	2.644	9.380	-0.004	-0.004	35.865	0.927	36.865	2.805	46.281	0.000	30.756	-0.187	0.000	0.000	0.000	0.000	0.000	1.570	15.705	15.705
82	1.400	4.593	-1.400	-4.593	7.493	0.215	6.810	2.870	4	4	5	5	4	114.551	0.272	0.272	0.000	0.000	1.700	4.785	8.135	1.998	7.392	26.554	2.978	7.221	0.028	0.029	25.772	0.697	26.772	2.656	38.162	0.000	29.551	-0.164	0.000	0.000	0.000	0.000	0.000	1.220	12.202	26.554
83	1.450	4.757	-1.450	-4.757	10.329	0.148	25.430	1.433	5	5	5	5	5	114.551	0.281	0.281	0.000	0.000	1.700	4.947	8.411	2.730	4.642	35.716	1.473	10.047	0.077	0.079	32.894	0.913	33.894	2.639	37.284	0.000	31.084	-0.115	0.000	0.000	0.000	0.000	0.000	1.682	16.821	16.821
84	1.500	4.921	-1.500	-4.921	14.417	0.165	15.480	1.145	6	5	6	6	5	114.551	0.291	0.291	0.000	0.000	1.700	5.524	9.392	3.497	5.945	48.591	1.168	14.126	0.034	0.034	46.929	1.335	47.929	2.463	29.042	0.000	32.677	-0.129	0.000	0.000	0.000	0.000	0.000	2.348	23.479	23.479
85	1.550	5.085	-1.550	-5.085	9.800	0.187	1.540	1.908	5	5	6	6	5	114.551	0.300	0.300	0.000	0.000	1.700	4.694	7.980	2.711	4.609	31.654	1.969	9.500	0.005	0.005	31.494	0.934	32.494	2.726	41.858	0.000	30.833	-0.138	0.000	0.000	0.000	0.000	0.000	1.596	15.960	15.960
86	1.600	5.249	-1.600	-5.249	6.584	0.152	5.450	2.309	4	4	5	5	4	114.551	0.310	0.310	0.000	0.000	1.700	4.205	7.148	1.790	5.753	20.273	2.422	6.275	0.026	0.027	19.724	0.614	20.724	2.693	40.086	0.000	28.933	-0.107	0.000	0.000	0.000	0.000	0.000	1.072	10.723	20.273
87	1.650	5.413	-1.650	-5.413	6.594	0.134	21.510	2.032	4	4	4	5	4	114.551	0.319	0.319	0.000	0.000	1.700	4.212	7.160	1.773	5.522	19.679	2.135	6.275	0.102	0.107	17.573	0.567	18.573	2.671	38.947	0.000	28.941	-0.082	0.000	0.000	0.000	0.000	0.000	1.074	10.739	19.679
88	1.700	5.577	-1.700	-5.577	8.070	0.135	38.500	1.673	5	4	4	5	4	114.551	0.328	0.328	0.000	0.000	1.700	3.866	6.572	2.284	3.884	23.583	1.744	7.742	0.149	0.155	19.923	0.658	20.923	2.768	44.199	0.000	29.906	-0.078	0.000	0.000	0.000	0.000	0.000	1.314	13.143	13.143
89	1.750	5.741	-1.750	-5.741	12.088	0.176	44.500	1.456	5	5	5	5	5	114.551	0.338	0.338	0.000	0.000	1.700	5.790	9.843	3.110	5.287	34.796	1.498	11.750	0.115	0.118	30.683	1.025	31.683	2.585	34.624	0.000	31.836	-0.109	0.000	0.000	0.000	0.000	0.000	1.969	19.686	19.686
90	1.800	5.905	-1.800	-5.905	10.241	0.188	36.960	1.836	5	5	5	5	4	114.551	0.347	0.347	0.000	0.000	1.700	4.905	8.339	2.797	4.755	28.506	1.900	9.894	0.113	0.117	25.182	0.871	26.182	2.702	40.545	0.000	31.044	-0.110	0.000	0.000	0.000	0.000	0.000	1.668	16.678	16.678
91	1.850	6.069	-1.850	-6.069	7.819	0.159	15.900	2.033	5	4	5	5	4	114.551	0.357	0.357	0.000	0.000	1.700	3.745	6.367	2.078	5.807	20.935	2.131	7.463	0.063	0.067	19.543	0.702	20.543	2.649	37.795	0.000	29.755	-0.093	0.000	0.000	0.000	0.000	0.000	1.273	12.734	20.935
92	1.900	6.234	-1.900	-6.234	6.964	0.089	19.840	1.278	1	4	4	5	5	111.369	0.366	0.366	0.000	0.000	1.689	3.336	5.635	1.970	3.348	18.041	1.349	6.598	0.089	0.094	16.347	0.608	17.347	2.767	44.115	0.000	29.171	-0.038	0.000	0.000	0.000	0.000	0.000	1.127	11.271	11.341
93	1.950	6.398	-1.950	-6.398	5.752	0.063	22.670	1.095	1	4	4	4	5	111.369	0.375	0.375	0.000	0.000	1.669	2.755	4.597	1.528	3.977	14.343	1.172	5.377	0.123	0.132	12.455	0.483	13.455	2.648	37.758	0.000	28.199	-0.001	0.000	0.000	0.000	0.000	0.000	0.919	9.194	14.343
94	2.000	6.562	-2.000	-6.562	5.647	0.041	23.590	0.726	1	5	4	4	5	111.369	0.384	0.384	0.000	0.000	1.649	2.705	4.460	1.576	2.678	13.706	0.779	5.263	0.130	0.140	11.789	0.470	12.789	2.742	42.713	0.000	28.054	0.032	0.000	0.000	0.000	0.000	0.000	0.892	8.920	9.197
95	2.050	6.726	-2.050	-6.726	4.581	0.042	29.070	0.917	1	4	3	3	4	111.369	0.393	0.393	0.000	0.000	1.629	2.195	3.576	1.271	3.084	10.654	1.003	4.188	0.198	0.217	8.346	0.352	9.346	2.731	42.111	0.000	26.999	0.047	0.000	0.000	0.000	0.000	0.000	0.715	7.152	10.654
96	2.100	6.890	-2.100	-6.890	5.491	0.040	45.020	0.728	1	4	3	3	5	111.369	0.402	0.402	0.000	0.000	1.611	2.630	4.237	1.436	3.453	12.650	0.786	5.089	0.256	0.276	9.157	0.391	10.157	2.617	36.217	0.000	27.809	0.055	0.000	0.000	0.000	0.000	0.000	0.847	8.474	12.650
97	2.150	7.054	-2.150	-7.054	6.614	0.066	58.340	0.998	1	4	3	3	5	111.369	0.412	0.412	0.000	0.000	1.593	3.168	5.047	1.722	4.098	15.077	1.064	6.203	0.275	0.294	10.651	0.459	11.651	2.609	35.797	0.000	28.644	0.020	0.000	0.000	0.000	0.000	0.000	1.009	10.093	15.077
98	2.200	7.218	-2.200	-7.218	7.210	0.107	60.890	1.484	5	4	3	4	4	114.551	0.421	0.421	0.000	0.000	1.575	3.454	5.440	1.936	4.525	16.140	1.576	6.789	0.264	0.280	11.622	0.509	12.622	2.670	38.857	0.000	29.003	-0.015	0.000	0.000	0.000	0.000	0.000	1.088	10.881	16.140
99	2.250	7.382	-2.250	-7.382	9.003	0.162	61.410	1.799	5	4	4	4	4	114.551	0.430	0.430	0.000	0.000	1.558	4.313	6.719	2.377	5.494	19.935	1.890	8.573	0.213	0.224	15.478	0.679	16.478	2.636	37.154	0.000	30.012	-0.058	0.000	0.000	0.000	0.000	0.000	1.344	13.438	19.935
100	2.300	7.546	-2.300	-7.546	11.177	0.176	69.960	1.575	5	5	4	4	4	114.551	0.440	0.440	0.000	0.000	1.541	5.354	8.251	2.948	5.012	24.433	1.639	10.737	0.195	0.203	19.464	0.862	20.464	2.635	37.077	0.000	30.993	-0.070	0.000	0.000	0.000	0.000	0.000	1.650	16.502	18.202
101	2.350	7.710	-2.350	-7.710	12.781	0.319	81.820	2.496	5	4	4	5	4	114.551	0.449	0.449	0.000	0.000	1.525	6.122	9.336	3.323	7.457	27.474	2.587	12.332	0.200	0.207	21.785	0.980	22.785	2.606	35.650	0.000	31.583	-0.125	0.000	0.000	0.000	0.000	0.000	1.867	18.672	27.474
102	2.400	7.874	-2.400	-7.874	22.575	0.374	52.070	1.657	6	5	6	6	5	114.551	0.458	0.458	0.000	0.000	1.509	8.651	13.056	5.403	8.155	48.264	1.691	22.117	0.072	0.073	44.717	2.007	45.717	2.434	27.816	35.184	34.251	-0.159	3.612	81.573	0.000	0.000	0.000	3.264	32.641	32.641
103	2.450	8.038	-2.450	-8.038	36.093	0.515	13.270	1.427	7	5	7	6	5	117.733	0.468	0.468	0.000	0.000	1.494	11.526	17.217	7.909	11.815	76.159	1.446	35.625	0.011	0.012	75.274	3.418	76.274	2.234	20.158	48.339	36.444	-0.196	2.893	104.445	0.000	0.000	0.000	5.165	51.652	51.652
104	2.500	8.202	-2.500	-8.202	38.786	0.534	2.550	1.377	7	5	8	6	5	117.733	0.478	0.478	0.000	0.000	1.479	12.386	18.314	8.390	12.406	80.239	1.394	38.308	0.002	0.002	80.073	3.708	81.073	2.203	19.104	50.109	36.739	-0.198	2.802	108.730	0.000	0.000	0.000	5.494	54.942	54.942
105	2.550	8.366	-2.550	-8.366	44.400	0.544	7.950	1.225	7	6	8	6	5	117.733	0.487	0.487	0.000	0.000	1.464	14.178	20.756	9.315	13.637	90.154	1.239	43.913	0.006	0.006	89.645	4.230	90.645	2.129	16.695	53.697	37.337	-0.198	2.629	116.793	0.000	0.000	0.000	6.227	62.267	62.267
106	2.600	8.530	-2.600	-8.530	54.782	0.578	1.890	1.055	7	6	8	6	5	117.733	0.497	0.497	0.000	0.000	1.450	17.494	25.359	11.008	15.957	109.283	1.065	54.285	0.001	0.001	109.164	5.242	110.164	2.020	13.492	59.438	38.294	-0.202	2.391	131.021	0.000	0.000	0.000	7.608	76.077	76.077
107	2.650	8.694	-2.650	-8.694	62.357	0.555	-5.320	0.890	8	6	8	6	6	120.915	0.507	0.507	0.000	0.000	1.436	14.934	21.439	12.123	17.403	122.107	0.897	61.850	-0.003	-0.003	122.435	5.990	123.435	1.933	11.209	62.871	38.866	-0.196	2.274	141.837	0.000	0.000	0.000	8.576	85.756	85.756
108	2.700	8.858	-2.700	-8.858	68.240	0.428	-3.210	0.627	8	6	8	6	6	120.915	0.517	0.517	0.000	0.000	1.422	16.343	23.235	12.707	18.066	131.135	0.632	67.724	-0.001	-0.001	131.329	6.547	132.329	1.816	8.463	65.177	39.250	-0.171	2.206	150.583	0.000	0.000	0.000	9.294	92.942	92.942
109	2.750	9.022	-2.750	-9.022	76.418	0.346	-3.580	0.453	8	6	8	6	6	120.915	0.527	0.526	0.001	0.023	1.409	18.302	25.791	13.667	19.259	144.379	0.456	75.891	-0.001	-0.001	144.593	7.332	145.593	1.701	5.000	68.168	39.749	-0.152	2.129	162.751	0.000	0.000	0.000	10.316	103.165	103.165
110	2.800	9.186	-2.800	-9.186	87.254	0.373	-4.150	0.427	9	6	9	6	6	124.097	0.537	0.531	0.006	0.187	1.403	16.718	23.449	15.285	21.440	163.443	0.430	86.718	-0.002	-0.002	163.699	8.371	164.699	1.640	5.000	71.836	40.360	-0.158	2.047	178.702	0.000	0.000	0.000	11.725	117.246	117.246
111	2.850	9.350	-2.850	-9.350	92.442	0.569	-4.410	0.616	8	6	9	6	6	120.915	0.547	0.536	0.011	0.351	1.396	22.140	30.911	16.580	23.149	171.610	0.619	91.896	-0.002	-0.002	171.887	8.869	172.887	1.709	6.296	73.359	40.614	-0.194	2.016	186.424	0.000	0.000	0.000	12.365	123.645	123.645
112	2.900	9.514	-2.900	-9.514	91.645	0.728	0.730	0.794	8	6	9	6	6	120.915	0.557	0.541	0.016	0.515	1.390	21.949	30.508	16.859	23.433	168.591	0.799	91.088	0.000	0.000	168.579	8.777	169.579	1.782	7.736	72.983	40.551	-0.215	2.023	185.518	0.000	0.000	0.000	12.203	122.033	122.033

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
113	2.950	9.678	-2.950	-9.678	93.842	0.587	1.870	0.626	8	6	9	6	6	120.915	0.567	0.545	0.021	0.680	1.384	22.475	31.102	16.843	23.308	171.120	0.629	93.275	0.000	0.000	171.052	8.984	172.052	1.711	6.334	73.535	40.643	-0.195	2.012	188.911	0.000	0.000	0.000	12.441	124.407	124.407
114	3.000	9.842	-3.000	-9.842	105.870	0.688	3.130	0.650	9	6	9	7	6	124.097	0.577	0.550	0.026	0.844	1.378	20.285	27.945	18.805	25.906	191.437	0.653	105.293	0.001	0.001	191.308	10.133	192.308	1.681	5.769	76.863	41.198	-0.208	1.947	206.239	0.000	0.000	0.000	13.972	139.723	139.723
115	3.050	10.006	-3.050	-10.006	112.904	0.831	2.230	0.736	9	6	9	7	6	124.097	0.587	0.555	0.031	1.008	1.371	21.632	29.665	20.150	27.632	202.348	0.740	112.317	0.000	0.000	202.279	10.810	203.279	1.695	6.024	78.576	41.483	-0.225	1.917	216.519	0.000	0.000	0.000	14.833	148.326	148.326
116	3.100	10.170	-3.100	-10.170	121.642	1.046	1.900	0.860	9	6	9	7	6	124.097	0.597	0.560	0.037	1.172	1.365	23.307	31.816	21.871	29.857	216.102	0.864	121.045	0.000	0.000	216.062	11.648	217.062	1.717	6.431	80.582	41.818	-0.246	1.889	229.851	0.000	0.000	0.000	15.908	159.082	159.082
117	3.150	10.335	-3.150	-10.335	125.236	1.340	4.200	1.070	8	6	9	7	6	120.915	0.607	0.565	0.042	1.336	1.359	29.994	40.767	22.977	31.230	220.561	1.075	124.629	0.001	0.001	220.403	11.985	221.403	1.774	7.580	81.292	41.936	-0.270	1.882	235.831	0.000	0.000	0.000	16.307	163.067	163.067
118	3.200	10.499	-3.200	-10.499	121.912	1.524	6.770	1.250	8	6	9	7	5	120.915	0.617	0.570	0.047	1.500	1.353	29.198	39.517	22.834	30.904	212.855	1.256	121.296	0.001	0.001	212.566	11.659	213.566	1.832	8.817	80.399	41.787	-0.283	1.891	230.610	0.000	0.000	0.000	15.807	158.070	158.070
119	3.250	10.663	-3.250	-10.663	120.191	1.663	3.330	1.384	8	6	9	7	8	120.915	0.627	0.575	0.052	1.664	1.348	28.786	38.797	22.820	30.757	208.065	1.391	119.564	0.000	0.000	207.974	11.504	208.974	1.869	9.669	79.872	41.699	-0.293	1.897	228.145	0.000	0.000	0.000	15.519	155.186	155.186
120	3.300	10.827	-3.300	-10.827	125.333	1.976	-4.260	1.577	8	6	9	7	8	120.915	0.637	0.580	0.057	1.829	1.342	30.017	40.289	24.068	32.304	215.201	1.585	124.697	-0.002	-0.002	215.529	12.020	216.529	1.900	10.397	80.953	41.880	-0.313	1.885	236.363	0.000	0.000	0.000	16.115	161.155	161.155
121	3.350	10.991	-3.350	-10.991	135.458	1.531	-8.300	1.130	8	6	9	7	8	120.915	0.647	0.584	0.062	1.993	1.337	32.442	43.364	24.836	33.197	230.747	1.136	134.812	-0.002	-0.002	231.297	13.002	232.297	1.772	7.541	83.062	42.231	-0.280	1.880	254.769	0.000	0.000	0.000	17.346	173.457	173.457
122	3.400	11.155	-3.400	-11.155	138.484	2.414	-8.980	1.743	8	6	9	7	8	120.915	0.657	0.589	0.067	2.157	1.331	33.167	44.152	26.662	35.493	233.988	1.751	137.828	-0.003	-0.003	234.578	13.294	235.578	1.907	10.566	83.578	42.317	-0.336	1.885	261.097	0.000	0.000	0.000	17.661	176.608	176.608
123	3.450	11.319	-3.450	-11.319	119.540	3.017	-11.220	2.524	7	8	9	7	8	117.733	0.666	0.594	0.072	2.321	1.326	38.173	50.616	0.000	0.000	200.224	2.538	118.874	-0.004	-0.004	200.936	11.485	201.936	2.074	0.000	79.248	41.596	-0.384	1.906	227.972	0.000	0.000	0.000	15.185	151.849	151.849
124	3.500	11.483	-3.500	-11.483	92.870	2.882	-11.150	3.103	6	8	9	6	8	114.551	0.676	0.598	0.078	2.485	1.321	35.588	47.014	0.000	0.000	154.144	3.126	92.195	-0.005	-0.005	154.855	8.930	155.855	2.214	0.000	71.907	40.372	-0.403	2.046	190.067	0.000	0.000	0.000	11.754	117.536	117.536
125	3.550	11.647	-3.550	-11.647	164.971	2.801	59.380	1.698	8	6	9	7	8	120.915	0.686	0.603	0.083	2.649	1.316	39.510	51.999	31.138	40.980	272.608	1.705	164.285	0.011	0.011	269.669	15.627	270.669	1.853	9.296	88.267	43.099	-0.346	0.000	0.000	0.000	0.000	0.000	20.800	207.998	207.998
126	3.600	11.811	-3.600	-11.811	152.733	2.847	-9.200	1.864	8	6	9	7	8	120.915	0.695	0.608	0.088	2.813	1.311	36.579	47.952	29.404	38.545	250.292	1.873	152.037	-0.002	-0.002	250.909	14.659	251.909	1.907	10.562	85.944	42.711	-0.353	1.956	298.891	0.000	0.000	0.000	19.181	191.806	191.806
127	3.650	11.975	-3.650	-11.975	141.023	2.765	-10.740	1.961	7	6	9	7	8	117.733	0.705	0.612	0.093	2.977	1.306	45.033	58.808	27.558	35.988	229.238	1.971	140.318	-0.003	-0.003	229.937	13.542	230.937	1.947	11.557	83.548	42.312	-0.352	1.884	265.835	0.000	0.000	0.000	17.642	176.425	176.425
128	3.700	12.139	-3.700	-12.139	157.176	2.915	-7.090	1.855	8	6	9	7	8	120.915	0.715	0.617	0.098	3.142	1.301	37.644	48.972	30.176	39.257	253.677	1.863	156.461	-0.002	-0.002	254.195	15.079	255.195	1.900	10.383	86.548	42.812	-0.354	1.993	313.397	0.000	0.000	0.000	19.589	195.887	195.887
129	3.750	12.303	-3.750	-12.303	165.425	2.610	-11.970	1.578	8	6	9	7	8	120.915	0.725	0.622	0.103	3.306	1.296	39.619	51.343	30.983	40.151	264.975	1.585	164.701	-0.003	-0.003	265.742	15.884	266.742	1.832	8.817	87.903	43.038	-0.335	0.000	0.000	0.000	0.000	0.000	20.537	205.371	205.371
130	3.800	12.467	-3.800	-12.467	120.249	2.256	-14.590	1.876	7	6	9	7	8	117.733	0.735	0.626	0.108	3.470	1.291	38.399	49.576	23.798	30.724	190.846	1.888	119.514	-0.005	-0.005	191.746	11.563	192.746	1.980	12.422	78.653	41.496	-0.326	1.916	230.451	0.000	0.000	0.000	14.873	148.729	148.729
131	3.850	12.631	-3.850	-12.631	92.573	2.467	-14.010	2.665	6	5	9	6	8	114.551	0.744	0.631	0.113	3.634	1.287	35.474	45.639	19.763	25.426	145.612	2.687	91.829	-0.006	-0.006	146.485	8.910	147.485	2.172	18.054	71.055	40.230	-0.359	2.064	191.126	0.000	0.000	0.000	11.410	114.097	114.097
132	3.900	12.795	-3.900	-12.795	138.387	2.651	5.910	1.916	7	6	9	7	8	117.733	0.754	0.635	0.119	3.798	1.282	44.192	56.657	27.069	34.705	216.730	1.926	137.633	0.000	0.000	216.626	13.240	217.626	1.950	11.622	82.480	42.134	-0.342	1.878	260.006	0.000	0.000	0.000	16.997	169.971	169.971
133	3.950	12.959	-3.950	-12.959	129.022	1.652	-6.110	1.280	8	6	9	7	5	120.915	0.764	0.640	0.124	3.962	1.277	30.901	39.472	24.236	30.959	200.494	1.288	128.259	-0.002	-0.002	200.986	12.379	201.986	1.840	8.998	80.367	41.782	-0.281	1.891	244.108	0.000	0.000	0.000	15.789	157.890	157.890
134	4.000	13.123	-4.000	-13.123	94.117	2.038	-10.160	2.165	7	5	9	6	5	117.733	0.773	0.645	0.129	4.126	1.273	30.055	38.252	19.536	24.864	144.858	2.183	93.343	-0.005	-0.005	145.550	9.047	146.550	2.102	15.879	71.221	40.258	-0.319	2.060	193.982	0.000	0.000	0.000	11.476	114.757	114.757
135	4.050	13.287	-4.050	-13.287	65.555	2.667	4.080	4.068	5	9	8	6	8	114.551	0.783	0.649	0.134	4.291	1.268	31.401	39.830	0.000	0.000	99.838	4.117	64.773	-0.000	-0.000	99.848	6.268	100.848	2.414	0.000	60.757	38.514	-0.436	2.343	153.686	0.000	0.000	0.000	7.966	79.660	79.660
136	4.100	13.451	-4.100	-13.451	47.925	2.897	-0.770	6.045	3	9	8	6	8	111.369	0.792	0.653	0.139	4.455	1.264	45.912	58.052	0.000	0.000	72.188	6.146	47.133	-0.003	-0.003	72.437	4.594	73.437	2.609	0.000	51.687	37.002	-0.704	2.724	130.615	0.000	0.000	0.000	5.805	58.052	63.763
137	4.150	13.615	-4.150	-13.615	48.036	2.796	4.230	5.821	3	9	8	6	8	111.369	0.801	0.657	0.144	4.619	1.261	46.019	58.008	0.000	0.000	71.902	5.919	47.235	-0.000	-0.000	71.920	4.589	72.920	2.597	0.000	51.666	36.998	-0.646	2.725	130.968	0.000	0.000	0.000	5.801	58.008	63.637
138	4.200	13.779	-4.200	-13.779	58.098	3.045	6.110	5.241	11	9	8	6	8	130.461	0.811	0.662	0.149	4.783	1.256	55.658	69.904	0.000	0.000	86.571	5.315	57.287	0.001	0.001	86.508	5.548	87.508	2.535	0.000	57.013	37.890	-0.570	2.485	144.447	0.000	0.000	0.000	6.990	69.904	69.904
139	4.250	13.943	-4.250	-13.943	65.413	2.591	6.960	3.961	5	9	8	6	8	114.551	0.821	0.667	0.154	4.947	1.251	31.333	39.207	0.000	0.000	96.889	4.011	64.592	0.001	0.001	96.795	6.246	97.795	2.410	0.000	60.306	38.438	-0.420	2.359	154.391	0.000	0.000	0.000	7.841	78.415	78.415
140	4.300	14.107	-4.300	-14.107	119.593	1.666	62.980	1.393	8	6	9	6	5	120.915	0.831	0.671	0.160	5.111	1.247	28.643	35.719	22.937	28.604	176.941	1.403	118.763	0.015	0.015	174.250	11.269	175.250	1.897	10.316	77.503	41.305	-0.276	1.936	231.570	0.000	0.000	0.000	14.288	142.877	142.877
141	4.350	14.271	-4.350	-14.271	169.163	1.384	-7.470	0.818	9	6	9	7	6	124.097	0.841	0.676	0.165	5.275	1.243	32.412	40.272	29.502	36.656	248.952	0.822	168.323	-0.002	-0.002	249.540	16.228	250.540	1.627	4.816	87.338	42.944	-0.254	0.000	0.000	0.000	0.000	0.000	20.136	201.361	201.361
142	4.400	14.436	-4.400	-14.436	168.668	1.147	-6.730	0.680	9	6	9	7	6	124.097	0.851	0.681	0.170	5.440	1.238	32.317	40.005	28.902	35.778	246.361	0.683	167.817	-0.002	-0.002	246.919	16.179	247.919	1.574	3.950	87.147	42.912	-0.236	0.000	0.000	0.000	0.000	0.000	20.002	200.025	200.025
143	4.450	14.600	-4.450	-14.600	162.814	1.152	-4.170	0.708	9	6	9	7	6	124.097	0.861	0.687	0.175	5.604	1.233	31.195	38.474	28.124	34.686	236.000	0.711	161.953	-0.002	-0.002	236.445	15.610	237.445	1.599	4.339	86.028	42.725	-0.235	1.961	319.367	0.000	0.000	0.000	19.237	192.370	192.370
144	4.500	14.764	-4.500	-14.764	166.346	1.185	-0.650	0.712	9	6	9	7	6	124.097	0.872	0.692	0.180	5.768	1.229	31.872	39.164	28.698	35.265	239.368	0.716	165.475	-0.001	-0.001	239.658	15.938	240.658	1.595	4.278	86.538	42.810	-0.237	1.992	331.573	0.000	0.000	0.000	19.582	195.822	195.822
145	4.550	14.928	-4.550	-14.928	172.085	1.239	2.360	0.720	9	6	9	7	6	124.097	0.882	0.697	0.185	5.932	1.224	32.971	40.368	29.623	36.269	245.856	0.724	171.203	-0.001	-0.001	246.016	16.479	247.016	1.588	4.171	87.406	42.955	-0.241	0.000	0.000	0.000	0.000	0.000	20.184	201.841	201.841
146	4.600	15.092	-4.600	-15.092	174.216	1.271	4.210	0.730	9	6	9	7	6	124.097	0.892	0.702	0.190	6.096	1.220	33.380	40.721	30.002	36.599	247.108	0.733	173.325	-0.000	-0.000	247.192	16.677	248.192	1.589	4.190	87.655	42.997	-0.242	0.000	0.000	0.000	0.000	0.000	20.360	203.603	203.603
147	4.650	15.256	-4.650	-15.256	176.787	1.271	5.950	0.719	9	6	9	7	6	124.097	0.902	0.707	0.195	6.260	1.216	33.872	41.173	30.365	36.910	248.964	0.723	175.885	-0.000	-0.000	248.977	16.918	249.977	1.582	4.064	87.972	43.049	-0.242	0.000	0.000	0.000	0.000	0.000	20.587	205.867	205.867
148	4.700	15.420	-4.700	-15.420	177.353	1.237	6.850	0.697	9	6	9	7	6	124.097	0.912	0.712	0.200	6.424	1.211	33.981	41.158	30.373	36.789	247.975	0.701	176.441	0.000	0.000	247.956	16.970	248.956	1.573	3.924	87.961	43.048	-0.238	0.000	0.000	0.000	0.000	0.000	20.579	205.790	205.790
149	4.750	15.584	-4.750	-15.584	181.817	1.243	7.520	0.684	9	6	9	7	6	124.097	0.922	0.717	0.206	6.589	1.207	34.836	42.045	31.008	37.424	252.440	0.687	180.895	0.000	0.000	252.399	17.396	253.399	1.560	3.725	88.572	43.150	-0.238	0.000	0.000	0.000	0.000	0.000	21.022	210.224	210.224
150	4.800	15.748	-4.800	-15.748	180.468	1.255	7.680	0.695	9	6	9	7	6	124.097	0.933	0.722	0.211	6.753	1.203	34.578	41.586	30.864	37.121	248.788	0.699	179.536	0.000	0.000	248.747	17.266	249.747	1.569	3.858	88.258	43.097	-0.238	0.000	0.000	0.000	0.000	0.000	20.793	207.932	207.932
151	4.850	15.912	-4.850	-15.912	178.041	1.278	8.230	0.718	9	6	9	7	6	124.097	0.943	0.727	0.216	6.917	1.199	34.113	40.884	30.599	36.673	243.703	0.722	177.099	0.000	0.000	243.646	17.032	244.646	1.583	4.093	87.770	43.016	-0.240	0.000	0.000	0.000	0.000	0.000	20.442	204.421	204.421
152	4.900	16.076	-4.900	-16.076	177.381	1.308	8.200	0.737	9	6	9	7	6	124.097	0.953	0.732	0.221	7.081	1.194	33.986	40.592	30.590	36.535	241.103	0.741	176.429	0.000	0.000	241.055	16.969	242.055	1.594	4.259	87.564	42.981	-0.241	0.000	0.000	0.000	0.000	0.000	20.296	202.958	202.958
153	4.950	16.240	-4.950	-16.240	170.962	1.364	8.300	0.798	9	6	9	7	6	124.097	0.963	0.737	0.226	7.245	1.190	32.756	38.988	29.843	35.521	230.722	0.802	169.999	0.000	0.000	230.677	16.353	231.677	1.630	4.863	86.409	42.789	-0.245	1.984	339.284	0.000	0.000	0.000	19.494	194.941	194.941
154	5.000	16.404	-5.000	-16.404	163.842	1.208	8.360	0.737	9	6	9	7	6	124.097	0.973	0.742	0.231	7.409	1.186	31.392	37.237	28.517	33.827	219.538	0.742	162.869	0.000	0.000	219.498	15.671	220.498	1.621	4.716	85.092	42.569	-0.233	1.919	314.502	0.000	0.000	0.000	18.618	186.185	186.185
155	5.050	16.568	-5.050	-16.568	151.541	1.153	0.150	0.761	9	6	9	7	6	124.097	0.984	0.747	0.236	7.573	1.182	29.035	34.324	26.695	31.558	201.569	0.766	150.558	-0.002	-0.002	201.879	14.517	202.879	1.657	5.332	82.757	42.180	-0.228	1.879	284.803	0.000	0.000	0.000	17.162	171.622	171.622
156	5.100	16.732	-5.100	-16.732	157.427	1.159	5.960	0.736	9	6	9	7	6	124.097	0.994	0.752	0.241	7.737	1.178	30.163	35.538	27.537	32.444	208.027	0.741	156.434	-0.000	-0.000	208.101	15.064	209.101	1.636	4.968	83.753	42.346	-0.228	1.887	297.168	0.000	0.000	0.000	17.769	177.688	177.688
157	5.150	16.896	-5.150	-16.896	156.332	1.217	8.390	0.778	9	6	9	7	6	124.097	1.004	0.757	0.247	7.902	1.174	29.953	35.172	27.528	32.324	205.178	0.783	155.329	0.000	0.000	205.158	14.952	206.158	1.656	5.310	83.457	42.297	-0.231	1.883	294.537	0.000	0.000	0.000	17.586	175.862	175.862
158	5.200	17.060	-5.200	-17.060	155.052	1.261	8.350	0.813	9	6	9	7	6	124.097	1.014	0.762	0.252	8.066	1.170	29.708	34.768	27.457	32.134	202.123	0.819	154.038	0.000	0.000	202.111	14.829	203.111	1.672	5.606	83.126	42.242	-0.234	1.880	291.685	0.000	0.000	0.000	17.384	173.842	173.842
159	5.250	17.224	-5.250	-17.224	158.957	1.265	9.160	0.796	9	6	9	7	6	124.097	1.024	0.767	0.257	8.230	1.166	30.456	35.526	28.021	32.686	205.868	0.801	157.933	0.000	0.000	205.830	15.201	206.830	1.659	5.368	83.744	42.345	-0.234	1.887	300.036	0.000	0.000	0.000	17.763	177.632	177.632
160	5.300	17.388	-5.300	-17.388	164.101	1.295	9.800	0.789	9	6	9	7	6	124.097	1.034	0.773	0.262	8.394	1.163	31.442	36.556	28.814	33.500	211.168	0.794	163.067	0.000	0.000	211.111	15.692	212.111	1.647	5.163	84.562	42.481	-0.235	1.903	312.372	0.000	0.000	0.000	18.278	182.778	182.778
161	5.350	17.552	-5.350	-17.552	165.397	1.353	9.210	0.818	9	6	9	7	6	124.097	1.045	0.778	0.267	8.558	1.159	31.690	36.724	29.132	33.760	211.448	0.823	164.353	0.000	0.000	211.422	15.818	212.422	1.657	5.324	84.694	42.503	-0.239	1.906	315.425	0.000	0.000	0.000	18.362	183.622	183.622
162	5.400	17.716	-5.400	-17.716	161.830	1.359	9.550	0.840	9	6	9	7	6	124.097	1.055	0.783	0.272	8.722	1.155	31.007	35.816	28.657	33.102	205.508	0.845	160.775	0.000	0.000	205.475	15.475	206.475	1.672	5.607	83.976	42.383	-0.239	1.890	306.038	0.000	0.000	0.000	17.908	179.079	179.079
163	5.450	17.880	-5.450	-17.880	148.128	1.264	9.240	0.853	9	6	9	7	6	124.097	1.065	0.788	0.277	8.886	1.151	28.381	32.678	26.540	30.558	186.773	0.859	147.063	0.000	0.000	186.759	14.163	187.759	1.706	6.238	81.348	41.945	-0.232	1.882	278.951	0.000	0.000	0.000	16.339	163.390	163.390
164	5.500	18.044	-5.500	-18.044	146.088	1.177	9.330	0.806	9	6	9	7	6	124.097	1.075	0.793	0.282	9.051	1.148	27.991	32.125	26.074	29.925	182.995	0.812	145.013	0.000	0.000	182.984	13.967	183.984	1.695	6.027	80.859	41.864	-0.224	1.887	275.794	0.000	0.000	0.000	16.063	160.625	160.625
165	5.550	18.208	-5.550	-18.208	146.721	1.116	9.780	0.761	9	6	9	7	6	124.097	1.085	0.798	0.288	9.215	1.144	28.112	32.162	26.035	29.786	182.615	0.766	145.636	0.000	0.000	182.593	14.027	183.593	1.678	5.715	80.892	41.869	-0.219	1.887	277.029	0.000	0.000	0.000	16.081	160.808	160.808
166	5.600	18.372	-5.600	-18.372	139.962	1.092	9.910	0.780	9	6	9	7	6	124.097	1.096	0.803	0.293	9.379	1.140	26.817	30.583	25.040	28.557	173.030	0.786	138.867	0.000	0.000	173.009	13.379	174.009	1.702	6.157	79.449	41.629	-0.216	1.906	266.850	0.000	0.000	0.000	15.292	152.916	152.916
167	5.650	18.537	-5.650	-18.537	136.091	1.040	9.830	0.764	9	6	9	6	6	124.097	1.106	0.808	0.298	9.543	1.137	26.075	29.644	24.385	27.723	167.141	0.770	134.986	0.000	0.000	167.130	13.008	168.130	1.707	6.242	78.555	41.480	-0.211	1.921	261.481	0.000	0.000	0.000	14.822	148.221	148.221
168	5.700	18.701	-5.700	-18.701	138.674	1.024	10.180	0.738	9	6	9	6	6	124.097	1.116	0.813	0.303	9.707	1.133	26.570	30.113	24.721	28.017	169.266	0.744	137.558	0.000	0.000	169.247	13.254	170.247	1.692	5.964	79.005	41.555	-0.209	1.914	265.518	0.000	0.000	0.000	15.056	150.563	150.563

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
169	5.750	18.865	-5.750	-18.865	138.086	1.049	10.520	0.760	9	6	9	6	6	124.097	1.126	0.818	0.308	9.871	1.130	26.457	29.892	24.705	27.912	167.487	0.766	136.960	0.000	0.000	167.462	13.197	168.462	1.702	6.159	78.794	41.520	-0.211	1.918	264.953	0.000	0.000	0.000	14.946	149.460	149.460
170	5.800	19.029	-5.800	-19.029	139.477	1.096	10.740	0.786	9	6	9	6	6	124.097	1.136	0.823	0.313	10.035	1.126	26.724	30.100	25.017	28.178	168.137	0.792	138.341	0.000	0.000	168.110	13.330	169.110	1.709	6.296	78.993	41.553	-0.214	1.915	267.266	0.000	0.000	0.000	15.050	150.502	150.502
171	5.850	19.193	-5.850	-19.193	140.096	1.075	10.590	0.767	9	6	9	6	6	124.097	1.146	0.828	0.318	10.200	1.123	26.842	30.141	25.065	28.146	167.845	0.774	138.950	0.000	0.000	167.830	13.390	168.830	1.702	6.161	79.032	41.559	-0.212	1.915	268.457	0.000	0.000	0.000	15.071	150.707	150.707
172	5.900	19.357	-5.900	-19.357	135.773	1.032	10.140	0.760	9	6	9	6	6	124.097	1.157	0.833	0.323	10.364	1.119	26.014	29.123	24.366	27.277	161.624	0.767	134.617	-0.000	-0.000	161.632	12.977	162.632	1.711	6.327	78.047	41.395	-0.208	1.933	262.525	0.000	0.000	0.000	14.561	145.613	145.613
173	5.950	19.521	-5.950	-19.521	135.148	1.131	10.970	0.837	9	6	9	6	6	124.097	1.167	0.838	0.329	10.528	1.116	25.894	28.901	24.507	27.352	159.890	0.844	133.982	0.000	0.000	159.874	12.914	160.874	1.741	6.906	77.828	41.359	-0.215	1.937	261.939	0.000	0.000	0.000	14.450	144.505	144.505
174	6.000	19.685	-6.000	-19.685	131.449	0.875	11.100	0.666	9	6	9	6	6	124.097	1.177	0.843	0.334	10.692	1.113	25.186	28.025	23.400	26.038	154.531	0.672	130.273	0.000	0.000	154.516	12.560	155.516	1.688	5.887	76.946	41.212	-0.191	1.954	257.011	0.000	0.000	0.000	14.013	140.127	140.127
175	6.050	19.849	-6.050	-19.849	121.881	0.731	4.970	0.600	9	6	9	6	6	124.097	1.187	0.848	0.339	10.856	1.109	23.352	25.908	21.695	24.070	142.315	0.606	120.694	-0.002	-0.002	142.532	11.661	143.532	1.687	5.884	74.694	40.836	-0.175	1.999	243.787	0.000	0.000	0.000	12.954	129.539	129.539
176	6.100	20.013	-6.100	-20.013	123.720	0.719	9.620	0.581	9	6	9	6	6	124.097	1.197	0.853	0.344	11.020	1.106	23.705	26.221	21.930	24.258	143.615	0.587	122.523	-0.000	-0.000	143.666	11.824	144.666	1.675	5.658	75.038	40.894	-0.173	1.993	246.708	0.000	0.000	0.000	13.110	131.103	131.103
177	6.150	20.177	-6.150	-20.177	123.349	0.811	11.010	0.657	9	6	9	6	6	124.097	1.208	0.859	0.349	11.184	1.103	23.634	26.065	22.123	24.399	142.324	0.664	122.142	-0.000	-0.000	142.330	11.784	143.330	1.709	6.295	74.867	40.865	-0.183	1.997	246.489	0.000	0.000	0.000	13.032	130.324	130.324
178	6.200	20.341	-6.200	-20.341	124.780	0.786	11.150	0.630	9	6	9	6	6	124.097	1.218	0.864	0.354	11.349	1.100	23.908	26.290	22.270	24.489	143.136	0.636	123.562	-0.000	-0.000	143.143	11.921	144.143	1.695	6.026	75.113	40.906	-0.180	1.993	248.829	0.000	0.000	0.000	13.145	131.449	131.449
179	6.250	20.505	-6.250	-20.505	124.300	0.766	11.280	0.616	9	6	9	6	6	124.097	1.228	0.869	0.359	11.513	1.096	23.816	26.113	22.159	24.296	141.739	0.622	123.073	-0.000	-0.000	141.747	11.874	142.747	1.692	5.964	74.919	40.874	-0.177	1.998	248.457	0.000	0.000	0.000	13.056	130.563	130.563
180	6.300	20.669	-6.300	-20.669	128.106	0.784	10.630	0.612	9	6	9	6	6	124.097	1.238	0.874	0.364	11.677	1.093	24.545	26.834	22.749	24.870	145.264	0.618	126.869	-0.000	-0.000	145.302	12.241	146.302	1.680	5.755	75.701	41.004	-0.179	1.983	254.158	0.000	0.000	0.000	13.417	134.170	134.170
181	6.350	20.833	-6.350	-20.833	125.961	0.840	11.320	0.667	9	6	9	6	6	124.097	1.248	0.879	0.370	11.841	1.090	24.134	26.309	22.597	24.632	141.974	0.674	124.713	-0.000	-0.000	141.992	12.033	142.992	1.710	6.306	75.134	40.910	-0.184	1.995	251.430	0.000	0.000	0.000	13.154	131.543	131.543
182	6.400	20.997	-6.400	-20.997	124.402	0.852	11.560	0.685	9	6	9	6	6	124.097	1.258	0.884	0.375	12.005	1.087	23.835	25.909	22.413	24.363	139.385	0.692	123.144	-0.000	-0.000	139.401	11.883	140.401	1.722	6.544	74.695	40.837	-0.185	2.005	249.525	0.000	0.000	0.000	12.954	129.543	129.543
183	6.450	21.161	-6.450	-21.161	124.154	0.805	11.920	0.648	9	6	9	6	6	124.097	1.269	0.889	0.380	12.169	1.084	23.788	25.783	22.269	24.137	138.302	0.655	122.886	-0.000	-0.000	138.310	11.858	139.310	1.710	6.298	74.556	40.813	-0.179	2.009	249.479	0.000	0.000	0.000	12.892	128.916	128.916
184	6.500	21.325	-6.500	-21.325	124.825	0.830	11.990	0.665	9	6	9	6	6	124.097	1.279	0.894	0.385	12.333	1.081	23.916	25.849	22.434	24.247	138.258	0.672	123.547	-0.000	-0.000	138.270	11.922	139.270	1.715	6.409	74.629	40.826	-0.181	2.008	250.740	0.000	0.000	0.000	12.924	129.245	129.245
185	6.550	21.489	-6.550	-21.489	126.807	0.860	12.410	0.678	9	6	9	6	6	124.097	1.289	0.899	0.390	12.498	1.078	24.296	26.186	22.797	24.570	139.675	0.685	125.519	-0.000	-0.000	139.678	12.111	140.678	1.716	6.424	74.999	40.887	-0.184	2.001	253.866	0.000	0.000	0.000	13.093	130.928	130.928
186	6.600	21.653	-6.600	-21.653	127.999	0.913	12.640	0.713	9	6	9	6	6	124.097	1.299	0.904	0.395	12.662	1.075	24.525	26.358	23.102	24.829	140.200	0.721	126.700	-0.000	-0.000	140.201	12.224	141.201	1.728	6.643	75.187	40.919	-0.189	1.998	255.864	0.000	0.000	0.000	13.179	131.788	131.788
187	6.650	21.817	-6.650	-21.817	125.887	0.943	12.310	0.749	9	6	9	6	6	124.097	1.309	0.909	0.400	12.826	1.072	24.120	25.850	22.880	24.521	137.085	0.757	124.578	-0.000	-0.000	137.102	12.023	138.102	1.747	7.037	74.630	40.826	-0.191	2.010	253.172	0.000	0.000	0.000	12.925	129.252	129.252
188	6.700	21.981	-6.700	-21.981	125.548	0.929	12.520	0.740	9	6	9	6	6	124.097	1.320	0.914	0.405	12.990	1.069	24.055	25.709	22.807	24.375	135.944	0.748	124.229	-0.000	-0.000	135.960	11.990	136.960	1.746	7.007	74.473	40.800	-0.189	2.014	252.996	0.000	0.000	0.000	12.855	128.547	128.547
189	6.750	22.145	-6.750	-22.145	126.840	0.921	12.840	0.726	9	6	9	6	6	124.097	1.330	0.919	0.410	13.154	1.066	24.303	25.902	22.980	24.492	136.591	0.734	125.511	-0.000	-0.000	136.601	12.113	137.601	1.738	6.855	74.688	40.835	-0.188	2.011	255.143	0.000	0.000	0.000	12.951	129.512	129.512
190	6.800	22.309	-6.800	-22.309	126.242	0.942	13.080	0.746	9	6	9	6	6	124.097	1.340	0.924	0.416	13.318	1.063	24.188	25.710	22.951	24.395	135.185	0.754	124.902	-0.000	-0.000	135.192	12.055	136.192	1.748	7.054	74.474	40.800	-0.190	2.016	254.597	0.000	0.000	0.000	12.855	128.548	128.548
191	6.850	22.473	-6.850	-22.473	126.223	0.971	13.340	0.769	9	6	9	6	6	124.097	1.350	0.929	0.421	13.482	1.060	24.184	25.636	23.023	24.405	134.418	0.778	124.874	-0.000	-0.000	134.422	12.052	135.422	1.758	7.241	74.391	40.786	-0.192	2.018	254.877	0.000	0.000	0.000	12.818	128.179	128.179
192	6.900	22.638	-6.900	-22.638	125.362	0.956	13.180	0.763	9	6	9	6	6	124.097	1.360	0.934	0.426	13.646	1.057	24.019	25.392	22.873	24.180	132.757	0.771	124.003	-0.000	-0.000	132.773	11.970	133.773	1.759	7.259	74.117	40.740	-0.190	2.025	253.952	0.000	0.000	0.000	12.696	126.959	126.959
193	6.950	22.802	-6.950	-22.802	118.663	0.989	13.300	0.833	9	6	9	6	6	124.097	1.370	0.939	0.431	13.811	1.054	22.736	23.970	21.991	23.185	124.898	0.843	117.293	-0.000	-0.000	124.915	11.328	125.915	1.803	8.175	72.466	40.465	-0.192	2.061	244.608	0.000	0.000	0.000	11.985	119.850	119.850
194	7.000	22.966	-7.000	-22.966	116.335	0.838	13.640	0.720	9	6	9	6	6	124.097	1.381	0.945	0.436	13.975	1.051	22.290	23.437	21.318	22.415	121.753	0.729	114.955	-0.000	-0.000	121.763	11.104	122.763	1.771	7.508	71.821	40.358	-0.177	2.075	241.523	0.000	0.000	0.000	11.718	117.184	117.184
195	7.050	23.130	-7.050	-23.130	109.184	0.900	8.600	0.824	8	6	9	6	6	120.915	1.391	0.949	0.441	14.139	1.049	26.149	27.424	20.433	21.429	113.575	0.835	107.794	-0.002	-0.002	113.757	10.434	114.757	1.830	8.767	69.928	40.042	-0.183	2.118	231.357	0.000	0.000	0.000	10.969	109.695	109.695
196	7.100	23.294	-7.100	-23.294	112.482	0.913	14.800	0.812	9	6	9	6	6	124.097	1.401	0.954	0.446	14.303	1.046	21.552	22.543	20.948	21.912	116.436	0.822	111.082	0.000	0.000	116.419	10.732	117.419	1.816	8.471	70.707	40.172	-0.184	2.101	236.470	0.000	0.000	0.000	11.272	112.717	112.717
197	7.150	23.458	-7.150	-23.458	113.293	0.862	19.700	0.761	9	6	9	6	6	124.097	1.411	0.959	0.451	14.467	1.043	21.707	22.646	20.957	21.863	116.656	0.770	111.883	0.001	0.001	116.486	10.795	117.486	1.797	8.063	70.837	40.194	-0.178	2.099	237.946	0.000	0.000	0.000	11.323	113.229	113.229
198	7.200	23.622	-7.200	-23.622	113.914	0.867	21.400	0.761	9	6	9	6	6	124.097	1.421	0.965	0.457	14.631	1.041	21.826	22.710	21.065	21.918	116.677	0.771	112.493	0.002	0.002	116.458	10.849	117.458	1.796	8.044	70.918	40.207	-0.178	2.098	239.145	0.000	0.000	0.000	11.355	113.550	113.550
199	7.250	23.786	-7.250	-23.786	100.728	0.812	22.100	0.806	8	6	9	6	6	120.915	1.431	0.969	0.462	14.795	1.038	24.124	25.038	19.026	19.746	102.467	0.818	99.297	0.002	0.002	102.232	9.584	103.232	1.855	9.341	67.319	39.607	-0.171	2.184	220.116	0.000	0.000	0.000	10.015	100.151	100.151
200	7.300	23.950	-7.300	-23.950	92.825	0.671	23.190	0.723	8	6	9	6	6	120.915	1.441	0.974	0.467	14.960	1.035	22.232	23.016	17.542	18.161	93.837	0.734	91.384	0.003	0.003	93.573	8.823	94.573	1.857	9.372	64.906	39.205	-0.154	2.250	208.954	0.000	0.000	0.000	9.207	92.066	92.066
201	7.350	24.114	-7.350	-24.114	93.983	0.599	26.080	0.637	8	6	9	6	6	120.915	1.451	0.979	0.472	15.124	1.033	22.509	23.246	17.537	18.111	94.550	0.647	92.532	0.004	0.004	94.201	8.926	95.201	1.822	8.587	65.191	39.253	-0.143	2.243	210.888	0.000	0.000	0.000	9.299	92.986	92.986
202	7.400	24.278	-7.400	-24.278	91.949	0.599	25.400	0.651	8	6	9	6	6	120.915	1.461	0.984	0.477	15.288	1.030	22.022	22.688	17.245	17.767	92.011	0.662	90.488	0.003	0.003	91.689	8.733	92.689	1.836	8.902	64.494	39.136	-0.143	2.264	208.245	0.000	0.000	0.000	9.075	90.751	90.751
203	7.450	24.442	-7.450	-24.442	86.869	0.619	25.420	0.713	8	6	9	6	6	120.915	1.471	0.989	0.482	15.452	1.028	20.805	21.382	16.554	17.013	86.414	0.725	85.398	0.004	0.004	86.099	8.246	87.099	1.879	9.901	62.795	38.853	-0.145	2.317	201.318	0.000	0.000	0.000	8.553	85.529	85.529
204	7.500	24.606	-7.500	-24.606	84.201	0.611	24.140	0.726	8	6	9	6	6	120.915	1.481	0.993	0.487	15.616	1.025	20.166	20.675	16.144	16.552	83.300	0.739	82.721	0.003	0.003	83.032	7.994	84.032	1.896	10.297	61.831	38.693	-0.143	2.349	197.860	0.000	0.000	0.000	8.270	82.702	82.702
205	7.550	24.770	-7.550	-24.770	82.244	0.595	23.130	0.723	8	6	9	6	6	120.915	1.491	0.998	0.492	15.780	1.023	19.698	20.146	15.819	16.180	80.929	0.737	80.754	0.003	0.003	80.699	7.810	81.699	1.905	10.504	61.088	38.569	-0.140	2.375	195.420	0.000	0.000	0.000	8.059	80.586	80.586
206	7.600	24.934	-7.600	-24.934	82.636	0.579	21.770	0.701	8	6	9	6	6	120.915	1.501	1.003	0.498	15.944	1.020	19.791	20.194	15.843	16.166	80.922	0.714	81.136	0.002	0.002	80.741	7.851	81.741	1.896	10.294	61.156	38.580	-0.138	2.374	196.237	0.000	0.000	0.000	8.078	80.775	80.775
207	7.650	25.098	-7.650	-25.098	78.451	0.567	21.030	0.723	8	6	8	6	6	120.915	1.511	1.008	0.503	16.109	1.018	18.789	19.126	15.195	15.467	76.373	0.737	76.941	0.002	0.002	76.221	7.453	77.221	1.923	10.961	59.598	38.320	-0.135	2.431	190.756	0.000	0.000	0.000	7.650	76.502	76.502
208	7.700	25.262	-7.700	-25.262	74.369	0.558	20.720	0.750	8	6	8	6	6	120.915	1.520	1.013	0.508	16.273	1.015	17.811	18.087	14.565	14.790	71.969	0.766	72.850	0.002	0.002	71.832	7.063	72.832	1.953	11.704	57.998	38.054	-0.133	2.493	185.484	0.000	0.000	0.000	7.235	72.350	72.350
209	7.750	25.426	-7.750	-25.426	72.212	0.546	21.190	0.756	8	6	8	6	6	120.915	1.530	1.017	0.513	16.437	1.013	17.295	17.521	14.215	14.401	69.499	0.772	70.683	0.002	0.002	69.353	6.855	70.353	1.966	12.052	57.087	37.902	-0.130	2.531	182.847	0.000	0.000	0.000	7.009	70.085	70.085
210	7.800	25.590	-7.800	-25.590	70.477	0.408	23.590	0.579	8	6	8	6	6	120.915	1.540	1.022	0.518	16.601	1.011	16.879	17.060	13.600	13.746	67.465	0.592	68.938	0.003	0.003	67.251	6.681	68.251	1.913	10.716	56.322	37.774	-0.105	2.564	180.785	0.000	0.000	0.000	6.824	68.241	68.241
211	7.850	25.754	-7.850	-25.754	75.722	0.340	16.280	0.449	8	6	8	6	6	120.915	1.550	1.027	0.523	16.765	1.008	18.135	18.287	14.181	14.300	72.249	0.458	74.172	-0.000	-0.000	72.263	7.205	73.263	1.832	5.000	58.312	38.106	-0.091	2.484	188.140	0.000	0.000	0.000	7.315	73.147	73.147
212	7.900	25.918	-7.900	-25.918	76.800	0.261	-1.560	0.340	8	6	8	6	6	120.915	1.560	1.032	0.528	16.929	1.006	18.394	18.504	14.080	14.164	72.949	0.347	75.241	-0.008	-0.008	73.508	7.362	74.508	1.772	5.000	58.651	38.163	-0.070	2.471	189.880	0.000	0.000	0.000	7.402	74.016	74.016
213	7.950	26.082	-7.950	-26.082	73.807	0.487	1.110	0.660	8	6	8	6	6	120.915	1.570	1.037	0.533	17.093	1.004	17.677	17.742	14.326	14.379	69.713	0.674	72.238	-0.007	-0.007	70.194	7.067	71.194	1.929	11.103	57.445	37.962	-0.120	2.520	186.095	0.000	0.000	0.000	7.097	70.967	70.967
214	8.000	26.246	-8.000	-26.246	81.343	0.311	11.750	0.382	8	6	9	6	6	120.915	1.580	1.041	0.539	17.258	1.001	19.482	19.508	14.923	14.943	76.622	0.390	79.764	-0.002	-0.002	76.787	7.758	77.787	1.774	5.000	60.166	38.415	-0.083	2.417	196.648	0.000	0.000	0.000	7.803	78.033	78.033
215	8.050	26.410	-8.050	-26.410	77.301	0.366	-4.700	0.473	8	6	8	6	6	120.915	1.590	1.046	0.544	17.422	0.999	18.514	18.496	14.513	14.500	72.395	0.483	75.711	-0.009	-0.009	73.055	7.419	74.055	1.839	5.000	58.639	38.161	-0.096	2.475	191.383	0.000	0.000	0.000	7.398	73.984	73.984
216	8.100	26.574	-8.100	-26.574	49.433	0.619	24.500	1.252	7	5	8	6	5	117.733	1.600	1.051	0.549	17.586	0.997	15.786	15.736	10.841	10.807	45.536	1.294	47.834	0.004	0.005	45.330	4.662	46.330	2.236	20.223	45.760	36.014	-0.135	3.092	152.914	0.000	0.000	0.000	4.721	47.207	47.207
217	8.150	26.739	-8.150	-26.739	53.594	1.470	87.110	2.743	6	5	7	6	4	114.551	1.609	1.055	0.554	17.750	0.995	20.537	20.429	12.796	12.728	49.281	2.828	51.985	0.040	0.042	47.228	4.874	48.228	2.429	27.589	48.016	36.390	-0.231	2.972	159.339	0.000	0.000	0.000	5.107	51.074	51.074
218	8.200	26.903	-8.200	-26.903	79.887	2.497	111.680	3.126	6	5	8	6	4	114.551	1.619	1.060	0.559	17.914	0.993	30.613	30.391	18.364	18.231	73.898	3.190	78.269	0.037	0.037	71.134	7.319	72.134	2.345	24.213	59.400	38.287	-0.307	2.448	195.680	0.000	0.000	0.000	7.598	75.977	75.977
219	8.250	27.067	-8.250	-27.067	80.770	3.982	-6.400	4.930	11	9	9	6	8	130.461	1.629	1.065	0.564	18.078	0.990	77.378	76.638	0.000	0.000	74.376	5.031	79.142	-0.009	-0.010	75.094	7.757	76.094	2.491	0.000	59.649	38.329	-0.498	2.440	197.173	0.000	0.000	0.000	7.664	76.638	76.638
220	8.300	27.231	-8.300	-27.231	78.884	3.724	-10.500	4.721	11	4	8	6	8	130.461	1.639	1.070	0.569	18.242	0.988	75.571	74.654	19.331	19.096	72.215	4.821	77.246	-0.011	-0.012	73.054	7.589	74.054	2.484	29.990	58.897	38.204	-0.464	2.470	194.904	0.000	0.000	0.000	7.465	74.654	74.654
221	8.350	27.395	-8.350	-27.395	71.179	3.710	-12.900	5.212	11	4	8	6	8	130.461	1.650	1.076	0.574	18.406	0.985	68.190	67.187	17.980	17.716	64.665	5.336	69.530	-0.014	-0.014	65.573	6.858	66.573	2.548	32.855	55.876	37.700	-0.516	2.594	184.751	0.000	0.000	0.000	6.719	67.187	67.187
222	8.400	27.559	-8.400	-27.559	61.361	3.691	-14.310	6.015	11	3	8	6	8	130.461	1.661	1.081	0.580	18.571	0.983	58.784	57.769	16.326	15.341	55.236	6.183	59.701	-0.017	-0.017	56.186	5.921	57.186	2.651	37.924	0.000	0.000	0.000	0.000	0.000	3.982	0.000	10.000	5.777	57.769	55.236
223	8.450	27.723	-8.450	-27.723	48.690	3.679	-14.420	7.556	3	3	8	6	8	111.369	1.671	1.086	0.585	18.735	0.981	46.645	45.739	14.007	13.006	43.312	7.824	47.020	-0.021	-0.022	44.265	4.708	45.265	2.798	45.870	0.000	0.000	0.000	0.000	0.000	3.136	0.000	10.000	4.574	45.739	43.312
224	8.500	27.887	-8.500	-27.887	46.607	3.439	-14.890	7.379	3	3	8	6	8	111.369	1.680	1.090	0.590	18.899	0.979	44.650	43.701	13.460	12.429	41.232	7.654	44.928	-0.023	-0.023	42.200	4.509	43.200	2.805	46.268	0.000	0.000	0.000	0.000	0.000	2.996	0.000	10.000	4.370	43.701	41.232

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
225	8.550	28.051	-8.550	-28.051	50.903	3.225	-13.940	6.336	3	3	8	6	8	111.369	1.689	1.094	0.595	19.063	0.977	48.765	47.642	14.105	13.017	45.001	6.553	49.215	-0.020	-0.021	45.942	4.918	46.942	2.729	42.017	0.000	0.000	0.000	0.000	0.000	0.000	3.282	0.000	10.000	4.764	47.642	45.001
226	8.600	28.215	-8.600	-28.215	43.708	3.012	-14.770	6.891	3	3	8	6	8	111.369	1.698	1.098	0.600	19.227	0.975	41.872	40.833	12.625	11.540	38.273	7.170	42.010	-0.024	-0.025	39.239	4.231	40.239	2.805	46.291	0.000	0.000	0.000	0.000	0.000	0.000	2.802	0.000	10.000	4.083	40.833	38.273
227	8.650	28.379	-8.650	-28.379	44.855	3.203	-15.200	7.141	3	3	8	6	8	111.369	1.707	1.102	0.605	19.391	0.973	42.971	41.828	12.989	11.839	39.167	7.423	43.149	-0.024	-0.025	40.146	4.343	41.146	2.810	46.551	0.000	0.000	0.000	0.000	0.000	0.000	2.878	0.000	10.000	4.183	41.828	39.167
228	8.700	28.543	-8.700	-28.543	80.497	3.796	-8.500	4.716	11	4	8	6	8	130.461	1.717	1.107	0.610	19.555	0.971	77.116	74.902	19.716	19.150	71.200	4.818	78.780	-0.011	-0.011	71.991	7.737	72.991	2.483	29.941	58.992	38.219	-0.461	2.474	199.201	0.000	0.000	0.000	7.490	74.902	74.902
229	8.750	28.707	-8.750	-28.707	88.258	4.647	-11.540	5.265	11	9	9	6	8	130.461	1.728	1.113	0.615	19.720	0.969	84.551	81.917	0.000	0.000	77.812	5.370	86.531	-0.011	-0.011	78.689	8.490	79.689	2.495	0.000	61.558	38.647	-0.559	2.382	210.302	0.000	0.000	0.000	8.192	81.917	81.917
230	8.800	28.871	-8.800	-28.871	76.897	5.207	-11.730	6.771	11	9	8	6	8	130.461	1.739	1.118	0.620	19.884	0.966	73.667	71.194	0.000	0.000	67.249	6.928	75.159	-0.013	-0.013	68.131	7.402	69.131	2.635	0.000	57.537	37.977	-0.967	2.534	194.899	0.000	0.000	0.000	7.119	71.194	67.249
231	8.850	29.035	-8.850	-29.035	70.593	4.119	-12.390	5.835	11	4	8	6	8	130.461	1.749	1.124	0.626	20.048	0.964	67.628	65.195	18.403	16.679	61.293	5.983	68.844	-0.014	-0.015	62.194	6.800	63.194	2.611	35.911	55.013	37.556	-0.624	2.643	186.630	0.000	0.000	0.000	6.519	65.195	61.293
232	8.900	29.199	-8.900	-29.199	83.818	2.587	-11.480	3.086	6	5	9	6	4	114.551	1.759	1.129	0.631	20.212	0.962	32.119	30.896	19.194	18.463	72.740	3.153	82.060	-0.012	-0.012	73.616	8.064	74.616	2.336	23.880	59.873	38.366	-0.308	2.445	205.010	0.000	0.000	0.000	7.724	77.240	77.240
233	8.950	29.363	-8.950	-29.363	84.115	1.147	-13.590	1.364	8	5	9	6	5	120.915	1.769	1.133	0.636	20.376	0.960	20.146	19.340	17.363	16.668	72.702	1.393	82.347	-0.013	-0.013	73.638	8.099	74.638	2.088	15.461	59.917	38.374	-0.190	2.444	205.677	0.000	0.000	0.000	7.736	77.358	77.358
234	9.000	29.527	-9.000	-29.527	88.740	0.664	-11.230	0.748	8	6	9	6	6	120.915	1.779	1.138	0.641	20.540	0.958	21.253	20.360	17.102	16.383	76.452	0.764	86.962	-0.011	-0.011	77.324	8.535	78.324	1.910	10.630	61.390	38.619	-0.139	2.393	212.411	0.000	0.000	0.000	8.144	81.439	81.439
235	9.050	29.691	-9.050	-29.691	96.233	0.627	-5.900	0.652	8	6	9	6	6	120.915	1.789	1.143	0.646	20.704	0.956	23.048	22.033	18.122	17.324	82.683	0.664	94.445	-0.009	-0.009	83.409	9.237	84.409	1.847	9.153	63.654	38.996	-0.134	2.320	223.344	0.000	0.000	0.000	8.813	88.130	88.130
236	9.100	29.855	-9.100	-29.855	104.967	0.491	-5.270	0.468	9	6	9	6	6	124.097	1.799	1.148	0.651	20.869	0.954	20.112	19.184	19.013	18.137	89.932	0.476	103.169	-0.008	-0.008	90.643	10.072	91.643	1.738	5.000	66.082	39.401	-0.114	2.250	236.321	0.000	0.000	0.000	9.592	95.922	95.922
237	9.150	30.019	-9.150	-30.019	114.807	0.345	-5.230	0.301	9	6	9	6	6	124.097	1.809	1.153	0.656	21.033	0.952	21.997	20.937	19.922	18.962	98.069	0.305	112.999	-0.007	-0.007	98.780	11.014	99.780	1.612	4.565	68.587	39.819	-0.085	2.187	251.141	0.000	0.000	0.000	10.468	104.684	104.684
238	9.200	30.183	-9.200	-30.183	117.088	0.516	-1.970	0.441	9	6	9	6	6	124.097	1.819	1.158	0.661	21.197	0.950	22.434	21.306	20.825	19.778	99.602	0.448	115.269	-0.006	-0.006	100.226	11.223	101.226	1.685	5.000	69.088	39.902	-0.118	2.175	254.809	0.000	0.000	0.000	10.653	106.530	106.530
239	9.250	30.347	-9.250	-30.347	110.205	0.705	3.950	0.640	9	6	9	6	6	124.097	1.829	1.163	0.667	21.361	0.948	21.115	20.010	20.381	19.314	93.238	0.651	108.376	-0.005	-0.005	93.705	10.546	94.705	1.797	8.050	67.289	39.602	-0.143	2.221	244.888	0.000	0.000	0.000	10.005	100.049	100.049
240	9.300	30.511	-9.300	-30.511	97.713	0.844	13.350	0.864	8	6	9	6	5	120.915	1.839	1.168	0.672	21.525	0.946	23.402	22.130	18.883	17.857	82.135	0.880	95.875	-0.003	-0.003	82.353	9.321	83.353	1.917	10.812	63.781	39.018	-0.158	2.321	226.876	0.000	0.000	0.000	8.852	88.521	88.521
241	9.350	30.675	-9.350	-30.675	69.881	0.908	24.120	1.299	7	5	8	6	5	117.733	1.849	1.172	0.677	21.689	0.944	22.315	21.060	14.752	13.922	58.050	1.335	68.032	0.001	0.001	57.985	6.622	58.985	2.144	17.172	54.114	37.406	-0.162	2.694	188.336	0.000	0.000	0.000	6.318	63.181	63.181
242	9.400	30.840	-9.400	-30.840	70.049	0.760	25.460	1.085	8	5	8	6	5	120.915	1.859	1.177	0.682	21.853	0.942	16.777	15.802	14.502	13.659	57.955	1.115	68.191	0.002	0.002	57.859	6.635	58.859	2.096	15.679	54.126	37.408	-0.145	2.694	188.821	0.000	0.000	0.000	6.321	63.207	63.207
243	9.450	31.004	-9.450	-31.004	67.543	0.467	8.470	0.691	8	6	8	6	5	120.915	1.869	1.182	0.687	22.018	0.940	16.177	15.206	13.457	12.649	55.590	0.711	65.675	-0.006	-0.006	55.948	6.445	56.948	1.998	12.891	53.023	37.225	-0.104	2.747	185.633	0.000	0.000	0.000	6.082	60.822	60.822
244	9.500	31.168	-9.500	-31.168	67.479	0.403	3.100	0.597	8	6	8	6	6	120.915	1.879	1.187	0.692	22.182	0.938	16.161	15.160	13.280	12.457	55.303	0.614	65.601	-0.009	-0.009	55.805	6.455	56.805	1.966	12.036	52.938	37.211	-0.092	2.752	185.803	0.000	0.000	0.000	6.064	60.642	60.642
245	9.550	31.332	-9.550	-31.332	70.418	0.205	14.080	0.291	8	6	8	6	6	120.915	1.889	1.191	0.697	22.346	0.936	16.865	15.789	13.080	12.245	57.539	0.299	68.530	-0.004	-0.004	57.756	6.704	58.756	1.809	5.000	54.102	37.404	-0.037	2.699	190.110	0.000	0.000	0.000	6.316	63.155	63.155
246	9.600	31.496	-9.600	-31.496	78.198	0.179	26.890	0.229	8	6	8	6	6	120.915	1.899	1.196	0.702	22.510	0.934	18.728	17.498	14.120	13.193	63.806	0.235	76.300	0.002	0.002	63.692	7.411	64.692	1.729	5.000	57.049	37.896	-0.026	2.570	201.045	0.000	0.000	0.000	6.999	69.992	69.992
247	9.650	31.660	-9.650	-31.660	81.969	0.207	41.480	0.253	9	6	8	6	6	124.097	1.909	1.201	0.708	22.674	0.932	15.705	14.643	14.784	13.784	66.677	0.259	80.061	0.007	0.007	66.188	7.729	67.188	1.726	5.000	58.340	38.111	-0.037	2.518	206.517	0.000	0.000	0.000	7.322	73.217	73.217
248	9.700	31.824	-9.700	-31.824	84.081	0.271	48.230	0.322	9	6	8	6	6	124.097	1.919	1.206	0.713	22.838	0.930	16.110	14.989	15.337	14.270	68.141	0.330	82.163	0.009	0.010	67.483	7.911	68.483	1.758	5.000	59.009	38.222	-0.058	2.493	209.727	0.000	0.000	0.000	7.495	74.946	74.946
249	9.750	31.988	-9.750	-31.988	82.627	0.342	45.930	0.414	8	6	8	6	6	120.915	1.929	1.211	0.718	23.002	0.929	19.789	18.375	15.374	14.276	66.654	0.424	80.698	0.009	0.009	66.062	7.778	67.062	1.814	5.000	58.450	38.129	-0.077	2.516	207.983	0.000	0.000	0.000	7.350	73.499	73.499
250	9.800	32.152	-9.800	-32.152	79.691	0.417	41.830	0.523	8	6	8	6	6	120.915	1.939	1.216	0.723	23.167	0.927	19.086	17.687	15.178	14.066	63.967	0.536	77.753	0.007	0.007	63.488	7.509	64.488	1.878	9.868	57.356	37.947	-0.092	2.561	204.193	0.000	0.000	0.000	7.075	70.748	70.748
251	9.850	32.316	-9.850	-32.316	76.822	0.564	40.330	0.734	8	6	8	6	5	120.915	1.949	1.221	0.728	23.331	0.925	18.399	17.017	15.147	14.009	61.356	0.753	74.874	0.007	0.007	60.921	7.239	61.921	1.971	12.167	56.249	37.762	-0.116	2.609	200.508	0.000	0.000	0.000	6.807	68.066	68.066
252	9.900	32.480	-9.900	-32.480	78.532	0.541	32.370	0.689	8	6	8	6	6	120.915	1.959	1.226	0.733	23.495	0.923	18.808	17.361	15.352	14.171	62.504	0.707	76.574	0.004	0.004	62.278	7.427	63.278	1.948	11.582	56.824	37.858	-0.113	2.585	203.126	0.000	0.000	0.000	6.945	69.445	69.445
253	9.950	32.644	-9.950	-32.644	88.154	0.337	8.720	0.382	9	6	9	6	6	124.097	1.969	1.231	0.738	23.659	0.921	16.890	15.560	16.182	14.907	70.069	0.391	86.186	-0.005	-0.005	70.447	8.419	71.447	1.776	5.000	60.079	38.401	-0.076	2.458	216.767	0.000	0.000	0.000	7.780	77.798	77.798
254	10.000	32.808	-10.000	-32.808	91.943	0.197	-9.110	0.214	9	6	9	6	6	124.097	1.979	1.236	0.743	23.823	0.919	17.616	16.195	16.209	14.901	72.841	0.219	89.965	-0.011	-0.011	73.673	8.835	74.673	1.659	5.000	61.227	38.592	-0.033	2.418	222.397	0.000	0.000	0.000	8.098	80.975	80.975
255	10.050	32.972	-10.050	-32.972	79.042	0.400	3.470	0.506	8	6	8	6	6	120.915	1.989	1.241	0.749	23.987	0.917	18.930	17.369	15.053	13.811	62.139	0.519	77.053	-0.008	-0.008	62.655	7.562	63.655	1.878	9.861	56.836	37.860	-0.088	2.588	204.651	0.000	0.000	0.000	6.947	69.475	69.475
256	10.100	33.136	-10.100	-33.136	65.809	0.582	25.510	0.884	8	5	8	6	5	120.915	1.999	1.245	0.754	24.151	0.916	15.761	14.433	13.520	12.381	51.262	0.912	63.811	0.001	0.001	51.227	6.228	52.227	2.076	15.108	51.529	36.976	-0.116	2.834	186.579	0.000	0.000	0.000	5.773	57.732	57.732
257	10.150	33.300	-10.150	-33.300	61.481	0.626	33.870	1.018	8	5	8	6	5	120.915	2.009	1.250	0.759	24.315	0.914	14.725	13.458	12.942	11.829	47.594	1.053	59.473	0.005	0.005	47.355	5.789	48.355	2.137	16.952	49.524	36.641	-0.121	2.937	180.652	0.000	0.000	0.000	5.383	53.832	53.832
258	10.200	33.464	-10.200	-33.464	51.235	0.555	61.730	1.083	7	5	8	6	5	117.733	2.019	1.255	0.764	24.480	0.912	16.361	14.926	11.159	10.180	39.240	1.128	49.217	0.023	0.024	38.312	4.724	39.312	2.220	19.660	44.245	35.762	-0.107	3.224	165.263	0.000	0.000	0.000	4.478	44.777	44.777
259	10.250	33.628	-10.250	-33.628	40.361	0.376	65.760	0.932	7	5	7	5	5	117.733	2.028	1.259	0.769	24.644	0.911	12.888	11.736	8.993	8.189	30.452	0.981	38.333	0.032	0.033	29.432	3.670	30.432	2.273	21.540	37.355	34.613	-0.070	3.616	146.018	0.000	0.000	0.000	3.521	35.209	35.209
260	10.300	33.792	-10.300	-33.792	30.500	0.623	112.210	2.043	6	4	6	5	4	114.551	2.038	1.264	0.774	24.808	0.909	11.688	10.625	8.027	6.190	22.533	2.189	28.463	0.089	0.096	20.372	2.586	21.372	2.630	36.839	0.000	33.267	-0.100	0.000	0.000	0.000	0.000	0.000	2.656	26.561	22.533
261	10.350	33.956	-10.350	-33.956	40.857	0.733	106.870	1.794	6	5	7	5	5	114.551	2.047	1.268	0.779	24.972	0.907	15.656	14.208	9.778	8.874	30.620	1.889	38.811	0.063	0.066	28.603	3.595	29.603	2.434	27.808	37.607	34.655	-0.123	3.604	147.321	0.000	0.000	0.000	3.552	35.520	35.520
262	10.400	34.120	-10.400	-34.120	47.020	0.660	33.610	1.404	7	5	8	6	5	117.733	2.057	1.272	0.784	25.136	0.906	15.015	13.602	10.689	9.684	35.352	1.468	44.964	0.006	0.006	35.144	4.404	36.144	2.319	23.248	41.584	35.318	-0.121	3.379	158.930	0.000	0.000	0.000	4.081	40.807	40.807
263	10.450	34.284	-10.450	-34.284	45.530	0.756	0.040	1.660	7	5	8	5	5	117.733	2.066	1.277	0.790	25.300	0.904	14.539	13.148	10.613	9.598	34.052	1.739	43.465	-0.017	-0.018	34.669	4.362	35.669	2.376	25.437	40.610	35.156	-0.135	3.435	156.472	0.000	0.000	0.000	3.944	39.444	39.444
264	10.500	34.448	-10.500	-34.448	39.105	0.741	-4.030	1.895	6	4	8	5	4	114.551	2.076	1.281	0.795	25.464	0.903	14.985	13.528	9.500	8.576	28.911	2.001	37.030	-0.024	-0.025	29.629	3.758	30.629	2.466	29.186	36.200	34.421	-0.133	3.688	144.267	0.000	0.000	0.000	3.382	33.819	33.819
265	10.550	34.612	-10.550	-34.612	38.621	1.312	109.160	3.397	5	4	7	5	3	114.551	2.085	1.286	0.800	25.629	0.901	18.500	16.673	10.463	8.040	28.431	3.591	36.537	0.068	0.071	26.402	3.374	27.402	2.686	39.732	35.796	34.353	-0.198	3.712	143.413	0.000	0.000	0.000	3.335	33.346	28.431
266	10.600	34.776	-10.600	-34.776	37.191	1.675	107.450	4.504	4	3	6	5	3	114.551	2.095	1.290	0.805	25.793	0.900	23.753	21.372	10.614	8.109	27.220	4.773	35.097	0.069	0.073	25.243	3.242	26.243	2.783	45.039	0.000	0.000	0.000	0.000	0.000	2.341	0.319	10.000	3.206	32.057	27.220
267	10.650	34.941	-10.650	-34.941	32.695	1.670	47.260	5.108	3	3	7	5	3	111.369	2.104	1.294	0.810	25.957	0.898	31.322	28.137	9.786	7.389	23.650	5.459	30.592	0.020	0.022	23.135	2.991	24.135	2.868	50.011	0.000	0.000	0.000	0.000	0.000	2.040	0.083	9.228	2.814	28.137	23.650
268	10.700	35.105	-10.700	-35.105	25.395	1.667	2.380	6.564	3	3	7	5	3	111.369	2.113	1.298	0.815	26.121	0.897	24.328	21.821	8.417	6.208	17.944	7.160	23.283	-0.029	-0.032	18.514	2.426	19.514	3.036	60.931	0.000	0.000	0.000	0.000	0.000	1.553	0.000	5.985	2.182	21.821	17.944
269	10.750	35.269	-10.750	-35.269	23.793	1.315	29.290	5.527	3	3	7	5	3	111.369	2.122	1.302	0.820	26.285	0.896	22.794	20.413	7.765	5.672	16.650	6.068	21.671	0.004	0.004	16.578	2.192	17.578	3.011	59.253	0.000	0.000	0.000	0.000	0.000	1.445	0.012	5.335	2.041	20.413	16.650
270	10.800	35.433	-10.800	-35.433	23.972	1.237	109.230	5.160	3	3	5	4	3	111.369	2.131	1.306	0.825	26.449	0.894	22.965	20.535	7.719	5.623	16.729	5.664	21.841	0.108	0.118	14.750	1.970	15.750	2.990	57.812	0.000	0.000	0.000	0.000	0.000	1.457	0.323	5.374	2.053	20.535	16.729
271	10.850	35.597	-10.850	-35.597	22.708	1.196	62.150	5.267	3	3	6	5	3	111.369	2.141	1.310	0.831	26.613	0.893	21.754	19.422	7.442	5.373	15.706	5.815	20.568	0.049	0.054	14.859	1.990	15.859	3.018	59.715	0.000	0.000	0.000	0.000	0.000	1.372	0.139	4.881	1.942	19.422	15.706
272	10.900	35.761	-10.900	-35.761	22.631	0.966	76.970	4.269	4	3	6	5	3	114.551	2.150	1.314	0.836	26.778	0.891	14.453	12.883	7.161	5.150	15.590	4.716	20.481	0.069	0.077	14.397	1.938	15.397	2.962	55.936	0.000	0.000	0.000	0.000	0.000	1.366	0.196	4.827	1.933	19.325	15.590
273	10.950	35.925	-10.950	-35.925	31.321	0.912	171.520	2.912	5	4	5	5	4	114.551	2.159	1.319	0.841	26.942	0.890	15.003	13.351	8.688	6.406	22.126	3.127	29.162	0.144	0.155	18.702	2.488	19.702	2.731	42.118	0.000	33.292	-0.130	0.000	0.000	0.000	0.000	0.000	2.670	26.703	22.126
274	11.000	36.089	-11.000	-36.089	40.924	1.589	200.880	3.883	5	4	6	5	3	114.551	2.169	1.323	0.846	27.106	0.888	19.603	17.417	11.255	8.415	29.310	4.100	38.756	0.133	0.140	25.208	3.320	26.208	2.715	41.254	37.047	34.562	-0.220	3.650	149.453	0.000	0.000	0.000	3.483	34.834	29.310
275	11.050	36.253	-11.050	-36.253	53.198	1.992	123.070	3.744	5	4	7	5	4	114.551	2.178	1.327	0.851	27.270	0.887	25.482	22.604	13.890	10.482	38.462	3.904	51.021	0.056	0.059	36.207	4.728	37.207	2.614	36.062	44.520	35.807	-0.263	3.226	171.699	0.000	0.000	0.000	4.521	45.208	38.462
276	11.100	36.417	-11.100	-36.417	51.186	2.449	109.940	4.784	4	4	7	5	3	114.551	2.187	1.331	0.856	27.434	0.886	32.691	28.952	13.990	10.504	36.819	4.998	49.000	0.050	0.053	34.884	4.575	35.884	2.703	40.619	43.369	35.616	-0.347	3.292	168.573	0.000	0.000	0.000	4.343	43.429	36.819
277	11.150	36.581	-11.150	-36.581	40.461	2.439	-11.000	6.028	3	3	8	5	3	111.369	2.197	1.336	0.861	27.598	0.884	38.762	34.276	12.019	8.888	28.664	6.374	38.265	-0.030	-0.031	29.566	3.909	30.566	2.855	49.216	0.000	0.000	0.000	0.000	0.000	2.552	0.000	10.000	3.428	34.276	28.664
278	11.200	36.745	-11.200	-36.745	36.491	1.973	-7.770	5.407	3	3	7	5	3	111.369	2.206	1.340	0.866	27.762	0.883	34.959	30.866	10.863	7.957	25.606	5.754	34.287	-0.030	-0.032	26.434	3.519	27.434	2.858	49.446	0.000	0.000	0.000	0.000	0.000	2.287	0.000	10.000	3.087	30.866	25.606
279	11.250	36.909	-11.250	-36.909	36.328	1.622	121.420	4.465	4	3	6	5	3	114.551	2.215	1.344	0.871	27.927	0.882	23.201	20.454	10.488	7.655	25.399	4.755	34.114	0.080	0.086	23.226	3.117	24.226	2.804	46.242	0.000	0.000	0.000	0.000	0.000	2.275	0.365	10.000	3.068	30.681	25.399
280	11.300	37.073	-11.300	-37.073	40.833	1.617	155.800	3.960	5	4	6	5	3	114.551	2.225	1.348	0.877	28.091	0.880	19.559	17.215	11.311	8.286	28.654	4.188	38.609	0.098	0.103	25.696	3.446	26.696	2.728	41.984	36.714	34.506	-0.229	3.676	150.166	0.000	0.000	0.000	3.443	34.430	28.654

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
281	11.350	37.237	-11.350	-37.237	39.137	2.072	164.530	5.294	3	3	6	5	3	111.369	2.234	1.352	0.882	28.255	0.879	37.493	32.950	11.470	8.353	27.305	5.615	36.904	0.109	0.115	24.158	3.257	25.158	2.831	47.802	0.000	0.000	0.000	0.000	0.000	2.461	0.532	10.000	3.295	32.950	27.305
282	11.400	37.401	-11.400	-37.401	31.168	2.502	-0.260	8.027	0	3	7	5	8	118.624	2.243	1.356	0.887	28.419	0.877	29.859	26.199	10.353	7.397	21.334	8.650	28.926	-0.029	-0.031	21.994	2.987	22.994	3.039	61.158	0.000	0.000	0.000	0.000	0.000	1.929	0.000	7.840	2.620	26.199	21.334
283	11.450	37.565	-11.450	-37.565	27.880	2.246	-4.830	8.056	0	3	7	5	8	118.624	2.253	1.361	0.892	28.583	0.876	26.709	23.395	9.518	6.713	18.838	8.764	25.628	-0.037	-0.041	19.604	2.685	20.604	3.081	64.139	0.000	0.000	0.000	0.000	0.000	1.709	0.000	6.453	2.340	23.395	18.838
284	11.500	37.729	-11.500	-37.729	54.567	2.571	-0.490	4.712	4	4	8	6	3	114.551	2.263	1.365	0.897	28.747	0.875	34.850	30.477	14.779	10.834	38.322	4.915	52.305	-0.017	-0.017	38.990	5.229	39.990	2.686	39.700	44.839	35.861	-0.359	3.217	175.640	0.000	0.000	0.000	4.572	45.715	38.322
285	11.550	37.893	-11.550	-37.893	73.631	3.058	-3.120	4.153	5	4	8	6	4	114.551	2.272	1.370	0.902	28.911	0.873	35.269	30.795	18.185	15.878	52.118	4.285	71.359	-0.014	-0.014	52.848	7.063	53.848	2.501	30.718	53.383	37.285	-0.351	2.771	204.102	0.000	0.000	0.000	6.159	61.590	61.590
286	11.600	38.057	-11.600	-38.057	79.721	3.583	-14.290	4.494	11	4	8	6	3	130.461	2.282	1.375	0.907	29.075	0.872	76.373	66.565	19.712	17.180	56.356	4.627	77.440	-0.017	-0.017	57.341	7.680	58.341	2.503	30.827	55.609	37.656	-0.399	2.669	212.892	0.000	0.000	0.000	6.656	66.565	66.565
287	11.650	38.221	-11.650	-38.221	73.490	3.793	-9.650	5.161	11	4	8	6	3	130.461	2.293	1.380	0.912	29.240	0.870	70.403	61.238	19.266	14.122	51.605	5.327	71.198	-0.017	-0.017	52.484	7.069	53.484	2.622	36.462	53.219	37.257	-0.468	2.781	204.456	0.000	0.000	0.000	6.124	61.238	51.605
288	11.700	38.385	-11.700	-38.385	55.413	3.271	-5.870	5.903	3	3	8	6	3	111.369	2.303	1.385	0.918	29.404	0.868	53.086	46.095	15.579	11.258	38.362	6.159	53.112	-0.020	-0.021	39.157	5.326	40.157	2.756	43.499	0.000	0.000	0.000	0.000	0.000	3.542	0.000	10.000	4.609	46.095	38.362
289	11.750	38.549	-11.750	-38.549	56.640	3.385	19.210	5.976	3	3	8	6	3	111.369	2.312	1.389	0.923	29.568	0.867	54.261	47.047	15.905	11.470	39.128	6.231	54.329	-0.006	-0.006	39.360	5.369	40.360	2.754	43.378	0.000	0.000	0.000	0.000	0.000	3.623	0.000	10.000	4.705	47.047	39.128
290	11.800	38.713	-11.800	-38.713	75.117	3.562	97.310	4.742	11	4	8	6	3	130.461	2.322	1.394	0.928	29.732	0.866	71.963	62.288	18.910	16.367	52.248	4.893	72.797	0.028	0.029	50.734	6.905	51.734	2.540	32.526	53.706	37.338	-0.406	2.761	207.464	0.000	0.000	0.000	6.229	62.288	62.288
291	11.850	38.877	-11.850	-38.877	60.737	4.294	33.150	7.070	11	3	8	6	8	130.461	2.332	1.399	0.933	29.896	0.864	58.186	50.263	17.378	12.470	41.752	7.352	58.406	0.002	0.002	41.679	5.719	42.679	2.788	45.306	0.000	0.000	0.000	0.000	0.000	3.895	0.013	10.000	5.026	50.263	41.752
292	11.900	39.042	-11.900	-39.042	54.776	3.841	-0.720	7.012	3	3	8	6	8	111.369	2.342	1.404	0.938	30.060	0.862	52.475	45.252	15.946	11.352	37.355	7.325	52.434	-0.018	-0.018	38.039	5.250	39.039	2.819	47.107	0.000	0.000	0.000	0.000	0.000	3.497	0.000	10.000	4.525	45.252	37.355
293	11.950	39.206	-11.950	-39.206	79.470	2.806	329.980	3.531	6	4	7	5	4	114.551	2.352	1.408	0.943	30.224	0.861	30.453	26.222	18.987	16.350	54.780	3.639	77.119	0.118	0.121	48.133	6.626	49.133	2.430	27.656	55.172	37.583	-0.286	2.696	214.348	0.000	0.000	0.000	6.556	65.556	65.556
294	12.000	39.370	-12.000	-39.370	83.508	3.234	31.790	3.873	5	4	9	6	4	114.551	2.361	1.413	0.948	30.389	0.860	40.001	34.392	20.093	17.275	57.467	3.985	81.148	0.001	0.001	57.436	7.905	58.436	2.445	28.295	56.549	37.812	-0.338	2.636	220.246	0.000	0.000	0.000	6.878	68.783	68.783
295	12.050	39.534	-12.050	-39.534	73.922	3.499	3.590	4.733	11	4	8	6	3	130.461	2.371	1.418	0.953	30.553	0.858	70.818	60.782	19.175	13.672	50.495	4.890	71.552	-0.011	-0.012	51.089	7.071	52.089	2.601	35.422	53.004	37.221	-0.407	2.799	207.021	0.000	0.000	0.000	6.078	60.782	50.495
296	12.100	39.698	-12.100	-39.698	65.041	3.557	5.020	5.469	11	3	8	6	3	130.461	2.382	1.423	0.959	30.717	0.857	62.310	53.374	17.647	12.475	44.047	5.677	62.661	-0.012	-0.013	44.610	6.216	45.610	2.689	39.881	0.000	0.000	0.000	0.000	0.000	4.179	0.000	10.000	5.337	53.374	44.047
297	12.150	39.862	-12.150	-39.862	71.013	3.670	173.500	5.168	11	4	7	6	3	130.461	2.392	1.429	0.964	30.881	0.855	68.031	58.161	18.828	13.298	48.049	5.348	68.622	0.063	0.065	44.931	6.284	45.931	2.645	37.574	51.741	37.011	-0.439	2.864	203.455	0.000	0.000	0.000	5.816	58.161	48.049
298	12.200	40.026	-12.200	-40.026	80.280	3.650	140.980	4.547	11	4	8	6	3	130.461	2.403	1.434	0.969	31.045	0.853	76.908	65.623	19.929	17.004	54.318	4.687	77.878	0.043	0.044	51.924	7.269	52.924	2.512	31.200	55.201	37.588	-0.388	2.700	216.871	0.000	0.000	0.000	6.562	65.623	65.623
299	12.250	40.190	-12.250	-40.190	74.485	4.059	15.220	5.449	11	4	8	6	8	130.461	2.414	1.440	0.974	31.209	0.852	71.357	60.768	19.794	13.890	50.073	5.632	72.072	-0.007	-0.007	50.420	7.090	51.420	2.649	37.806	52.998	37.220	-0.506	2.805	208.982	0.000	0.000	0.000	6.077	60.768	50.073
300	12.300	40.354	-12.300	-40.354	59.839	3.969	-12.940	6.633	11	3	8	6	8	130.461	2.425	1.446	0.979	31.373	0.850	57.326	48.725	17.069	11.832	39.737	6.913	57.416	-0.023	-0.024	40.693	5.771	41.693	2.782	44.989	0.000	0.000	0.000	0.000	0.000	3.829	0.000	10.000	4.872	48.725	39.737
301	12.350	40.518	-12.350	-40.518	56.349	3.594	-9.730	6.378	3	3	8	6	8	111.369	2.434	1.450	0.984	31.538	0.849	53.983	45.807	16.143	11.122	37.191	6.666	53.916	-0.023	-0.024	38.079	5.427	39.079	2.790	45.436	0.000	0.000	0.000	0.000	0.000	3.596	0.000	10.000	4.581	45.807	37.191
302	12.400	40.682	-12.400	-40.682	46.102	2.993	-4.480	6.492	3	3	8	5	3	111.369	2.444	1.454	0.989	31.702	0.847	44.166	37.425	13.760	9.357	30.033	6.855	43.659	-0.024	-0.026	30.809	4.430	31.809	2.863	49.722	0.000	0.000	0.000	0.000	0.000	2.912	0.000	10.000	3.743	37.425	30.033
303	12.450	40.846	-12.450	-40.846	40.012	2.712	-9.290	6.778	3	3	8	5	3	111.369	2.453	1.458	0.994	31.866	0.846	38.332	32.437	12.390	8.328	25.766	7.220	37.560	-0.032	-0.034	26.647	3.861	27.647	2.926	53.617	0.000	0.000	0.000	0.000	0.000	2.505	0.000	10.000	3.244	32.437	25.766
304	12.500	41.010	-12.500	-41.010	42.785	2.403	10.470	5.616	3	3	8	5	3	111.369	2.462	1.462	1.000	32.030	0.845	40.988	34.637	12.645	8.511	27.587	5.959	40.324	-0.016	-0.017	28.046	4.068	29.046	2.846	48.687	0.000	0.000	0.000	0.000	0.000	2.689	0.000	10.000	3.464	34.637	27.587
305	12.550	41.174	-12.550	-41.174	48.984	2.047	61.560	4.179	5	4	8	5	3	114.551	2.471	1.466	1.005	32.194	0.844	23.463	19.800	13.442	9.089	31.731	4.401	46.514	0.019	0.020	31.105	4.509	32.105	2.711	41.024	40.723	35.175	-0.274	3.476	170.354	0.000	0.000	0.000	3.960	39.599	31.731
306	12.600	41.338	-12.600	-41.338	40.317	2.050	7.600	5.085	3	3	8	5	3	111.369	2.480	1.471	1.010	32.358	0.843	38.624	32.547	11.868	7.909	25.740	5.418	37.838	-0.019	-0.020	26.265	3.840	27.265	2.839	48.264	0.000	0.000	0.000	0.000	0.000	2.524	0.000	10.000	3.255	32.547	25.740
307	12.650	41.502	-12.650	-41.502	35.847	2.082	7.450	5.808	3	3	7	5	3	111.369	2.490	1.475	1.015	32.522	0.842	34.341	28.898	11.073	7.297	22.630	6.241	33.358	-0.022	-0.023	23.161	3.412	24.161	2.922	53.358	0.000	0.000	0.000	0.000	0.000	2.225	0.000	8.605	2.890	28.898	22.630
308	12.700	41.666	-12.700	-41.666	38.410	1.936	19.180	5.040	3	3	8	5	3	111.369	2.499	1.479	1.020	32.687	0.840	36.797	30.923	11.415	7.537	24.297	5.391	35.912	-0.011	-0.012	24.582	3.622	25.582	2.856	49.268	0.000	0.000	0.000	0.000	0.000	2.395	0.000	9.632	3.092	30.923	24.297
309	12.750	41.830	-12.750	-41.830	40.939	1.796	46.370	4.387	4	3	8	5	3	114.551	2.508	1.483	1.025	32.851	0.839	26.147	21.942	11.743	7.764	25.929	4.673	38.433	0.010	0.011	25.644	3.783	26.644	2.793	45.568	0.000	0.000	0.000	0.000	0.000	2.563	0.053	10.000	3.291	32.913	25.929
310	12.800	41.994	-12.800	-41.994	35.002	1.843	19.590	5.265	3	3	7	5	3	111.369	2.517	1.487	1.030	33.015	0.838	33.532	28.101	10.701	6.975	21.856	5.673	32.486	-0.012	-0.013	22.138	3.295	23.138	2.904	52.263	0.000	0.000	0.000	0.000	0.000	2.167	0.000	8.145	2.810	28.101	21.856
311	12.850	42.158	-12.850	-42.158	32.989	1.811	20.600	5.490	3	3	7	5	3	111.369	2.526	1.491	1.035	33.179	0.837	31.603	26.448	10.299	6.661	20.440	5.945	30.463	-0.012	-0.013	20.703	3.099	21.703	2.939	54.494	0.000	0.000	0.000	0.000	0.000	2.032	0.000	7.330	2.645	26.448	20.440
312	12.900	42.322	-12.900	-42.322	35.349	1.784	47.950	5.047	3	3	7	5	3	111.369	2.536	1.495	1.041	33.343	0.836	33.865	28.303	10.719	6.950	21.959	5.437	32.815	0.013	0.014	21.653	3.243	22.653	2.890	51.388	0.000	0.000	0.000	0.000	0.000	2.189	0.057	8.205	2.830	28.303	21.959
313	12.950	42.486	-12.950	-42.486	35.521	1.374	45.090	3.868	5	3	7	5	3	114.551	2.545	1.499	1.046	33.507	0.835	17.015	14.201	10.303	6.663	22.007	4.166	32.978	0.010	0.011	21.765	3.268	22.765	2.813	46.724	0.000	0.000	0.000	0.000	0.000	2.199	0.045	8.233	2.840	28.402	22.007
314	13.000	42.650	-13.000	-42.650	34.778	1.408	49.330	4.049	5	3	7	5	3	114.551	2.554	1.503	1.051	33.671	0.833	16.659	13.884	10.214	6.574	21.443	4.369	32.225	0.014	0.015	21.118	3.184	22.118	2.835	48.020	0.000	0.000	0.000	0.000	0.000	2.149	0.061	7.903	2.777	27.768	21.443
315	13.050	42.814	-13.050	-42.814	28.250	1.105	67.330	3.911	5	3	7	5	3	114.551	2.564	1.508	1.056	33.836	0.832	13.532	11.262	8.647	5.446	17.045	4.302	25.688	0.037	0.041	16.351	2.505	17.351	2.906	52.390	0.000	0.000	0.000	0.000	0.000	1.713	0.131	5.530	2.252	22.524	17.045
316	13.100	42.978	-13.100	-42.978	24.397	0.863	74.730	3.537	5	3	6	4	3	114.551	2.573	1.512	1.061	34.000	0.831	11.686	9.712	7.616	4.706	14.441	3.954	21.825	0.052	0.058	13.599	2.114	14.599	2.939	54.491	0.000	0.000	0.000	0.000	0.000	1.456	0.159	4.301	1.942	19.424	14.441
317	13.150	43.143	-13.150	-43.143	22.410	0.609	109.000	2.717	5	3	5	4	3	114.551	2.582	1.516	1.066	34.164	0.830	10.735	8.909	6.864	4.183	13.083	3.071	19.829	0.104	0.118	11.542	1.821	12.542	2.907	52.459	0.000	0.000	0.000	0.000	0.000	1.322	0.292	3.716	1.782	17.817	13.083
318	13.200	43.307	-13.200	-43.307	21.660	0.643	164.930	2.969	5	3	5	4	3	114.551	2.592	1.521	1.071	34.328	0.829	10.375	8.598	6.789	4.105	12.546	3.372	19.069	0.188	0.214	9.864	1.582	10.864	2.946	54.921	0.000	0.000	0.000	0.000	0.000	1.272	0.510	3.495	1.720	17.196	12.546
319	13.250	43.471	-13.250	-43.471	21.917	0.732	122.830	3.340	5	3	5	4	3	114.551	2.601	1.525	1.076	34.492	0.828	10.498	8.688	6.983	4.215	12.674	3.789	19.317	0.126	0.143	10.864	1.732	11.864	2.973	56.676	0.000	0.000	0.000	0.000	0.000	1.288	0.345	3.547	1.738	17.376	12.674
320	13.300	43.635	-13.300	-43.635	23.402	1.049	115.640	4.483	4	3	5	4	3	114.551	2.611	1.529	1.081	34.656	0.826	14.946	12.351	7.708	4.677	13.604	5.045	20.792	0.108	0.122	11.949	1.896	12.949	3.026	60.245	0.000	0.000	0.000	0.000	0.000	1.387	0.316	3.936	1.853	18.527	13.604
321	13.350	43.799	-13.350	-43.799	23.945	1.231	53.590	5.141	3	3	6	5	3	111.369	2.620	1.533	1.087	34.820	0.825	22.939	18.931	8.040	4.877	13.915	5.772	21.326	0.024	0.028	13.532	2.134	14.532	3.056	62.329	0.000	0.000	0.000	0.000	0.000	1.422	0.073	4.070	1.893	18.931	13.915
322	13.400	43.963	-13.400	-43.963	24.374	1.368	50.310	5.613	3	3	7	5	3	111.369	2.629	1.537	1.092	34.984	0.824	23.350	19.246	8.285	5.021	14.152	6.291	21.746	0.020	0.022	13.840	2.185	14.840	3.075	63.659	0.000	0.000	0.000	0.000	0.000	1.450	0.060	4.174	1.925	19.246	14.152
323	13.450	44.127	-13.450	-44.127	24.922	1.252	61.220	5.024	3	3	6	5	3	111.369	2.638	1.541	1.097	35.149	0.823	23.875	19.653	8.258	5.003	14.465	5.618	22.285	0.033	0.037	13.936	2.204	14.936	3.035	60.904	0.000	0.000	0.000	0.000	0.000	1.486	0.102	4.312	1.965	19.653	14.465
324	13.500	44.291	-13.500	-44.291	27.798	1.264	103.840	4.547	4	3	6	5	3	114.551	2.647	1.545	1.102	35.313	0.822	17.754	14.594	8.814	5.389	16.282	5.025	25.152	0.077	0.085	14.897	2.353	15.897	2.965	56.153	0.000	0.000	0.000	0.000	0.000	1.677	0.268	5.156	2.189	21.891	16.282
325	13.550	44.455	-13.550	-44.455	29.183	1.389	53.350	4.760	3	3	7	5	3	111.369	2.657	1.550	1.107	35.477	0.821	27.957	22.951	9.225	5.651	17.127	5.236	26.528	0.019	0.021	16.766	2.636	17.766	2.960	55.822	0.000	0.000	0.000	0.000	0.000	1.769	0.070	5.571	2.295	22.951	17.127
326	13.600	44.619	-13.600	-44.619	28.200	1.563	25.660	5.543	3	3	7	5	3	111.369	2.666	1.554	1.112	35.641	0.820	27.016	22.149	9.241	5.625	16.444	6.121	25.536	-0.011	-0.012	16.644	2.625	17.644	3.018	59.700	0.000	0.000	0.000	0.000	0.000	1.703	0.000	5.234	2.215	22.149	16.444
327	13.650	44.783	-13.650	-44.783	23.669	1.610	-1.690	6.802	3	3	7	4	2	111.369	2.675	1.558	1.117	35.805	0.819	22.675	18.567	8.448	5.024	13.485	7.668	20.996	-0.049	-0.056	14.237	2.273	15.237	3.147	68.973	0.000	0.000	0.000	0.000	0.000	1.400	0.000	3.886	1.857	18.567	13.485
328	13.700	44.947	-13.700	-44.947	22.421	1.431	19.420	6.382	3	3	7	4	3	111.369	2.684	1.562	1.122	35.969	0.818	21.480	17.565	8.028	4.726	12.645	7.250	19.738	-0.023	-0.026	12.976	2.090	13.976	3.152	69.326	0.000	0.000	0.000	0.000	0.000	1.316	0.000	3.536	1.757	17.565	12.645
329	13.750	45.111	-13.750	-45.111	26.166	1.333	106.730	5.094	3	3	6	4	3	111.369	2.693	1.566	1.128	36.133	0.817	25.067	20.473	8.621	5.159	15.000	5.679	23.474	0.084	0.094	13.591	2.188	14.591	3.026	60.287	0.000	0.000	0.000	0.000	0.000	1.566	0.276	4.554	2.047	20.473	15.000
330	13.800	45.275	-13.800	-45.275	26.815	1.472	56.860	5.489	3	3	7	5	3	111.369	2.702	1.570	1.133	36.298	0.816	25.689	20.953	8.907	5.329	15.369	6.104	24.114	0.024	0.027	14.960	2.399	15.960	3.039	61.159	0.000	0.000	0.000	0.000	0.000	1.608	0.080	4.724	2.095	20.953	15.369
331	13.850	45.439	-13.850	-45.439	24.944	1.642	15.070	6.583	3	3	7	4	3	111.369	2.711	1.574	1.138	36.462	0.815	23.896	19.467	8.745	5.173	14.135	7.385	22.234	-0.027	-0.030	14.559	2.345	15.559	3.121	67.032	0.000	0.000	0.000	0.000	0.000	1.483	0.000	4.166	1.947	19.467	14.135
332	13.900	45.603	-13.900	-45.603	24.116	1.579	20.230	6.547	3	3	7	5	3	111.369	2.721	1.578	1.143	36.626	0.814	23.103	18.797	8.530	5.010	13.568	7.380	21.397	-0.021	-0.024	13.892	2.250	14.892	3.134	67.994	0.000	0.000	0.000	0.000	0.000	1.427	0.000	3.921	1.880	18.797	13.568
333	13.950	45.767	-13.950	-45.767	22.808	1.382	42.980	6.059	3	3	7	5	3	111.369	2.730	1.582	1.148	36.790	0.813	21.850	17.755	8.076	4.694	12.701	6.883	20.080	0.009	0.010	12.578	2.057	13.578	3.136	68.106	0.000	0.000	0.000	0.000	0.000	1.339	0.024	3.558	1.775	17.755	12.701
334	14.000	45.931	-14.000	-45.931	23.562	1.434	34.020	6.086	3	3	7	5	3	111.369	2.739	1.586	1.153	36.954	0.812	22.573	18.318	8.281	4.820	13.138	6.886	20.825	-0.004	-0.004	13.196	2.156	14.196	3.125	67.295	0.000	0.000	0.000	0.000	0.000	1.389	0.000	3.739	1.832	18.318	13.138
335	14.050	46.095	-14.050	-46.095	24.126	1.494	47.480	6.192	3	3	7	5	3	111.369	2.748	1.590	1.158	37.118	0.810	23.113	18.733	8.459	4.924	13.454	6.988	21.380	0.013	0.015	13.250	2.169	14.250	3.121	67.034	0.000	0.000	0.000	0.000	0.000	1.426	0.041	3.872	1.873	18.733	13.454
336	14.100	46.259	-14.100	-46.259	23.186	1.462	28.230	6.305	3	3	7	5	3	111.369	2.757	1.594	1.163	37.282	0.809	22.212	17.980	8.255	4.766	12.825	7.156	20.430	-0.012	-0.014	13.001	2.137	14.001	3.144	68.700	0.000	0.000	0.000	0.000	0.000	1.363	0.000	3.609	1.798	17.980	12.825

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
337	14.150	46.423	-14.150	-46.423	22.089	1.437	30.330	6.505	3	3	7	4	2	111.369	2.766	1.598	1.169	37.447	0.808	21.162	17.108	8.029	4.591	12.100	7.436	19.324	-0.010	-0.011	12.238	2.025	13.238	3.174	70.969	0.000	0.000	0.000	0.000	0.000	1.289	0.000	3.317	1.711	17.108	12.100
338	14.200	46.587	-14.200	-46.587	21.926	1.264	39.380	5.765	3	3	7	5	3	111.369	2.775	1.602	1.174	37.611	0.807	21.005	16.960	7.805	4.445	11.962	6.600	19.152	0.003	0.003	11.927	1.983	12.927	3.144	68.692	0.000	0.000	0.000	0.000	0.000	1.277	0.007	3.262	1.696	16.960	11.962
339	14.250	46.751	-14.250	-46.751	22.263	1.242	71.030	5.579	3	3	6	4	3	111.369	2.785	1.606	1.179	37.775	0.806	21.328	17.200	7.847	4.465	12.136	6.376	19.480	0.047	0.053	11.489	1.920	12.489	3.129	67.611	0.000	0.000	0.000	0.000	0.000	1.299	0.130	3.331	1.720	17.200	12.136
340	14.300	46.915	-14.300	-46.915	23.960	1.445	65.670	6.031	3	3	6	4	3	111.369	2.794	1.610	1.184	37.939	0.805	22.954	18.487	8.404	4.817	13.155	6.827	21.167	0.036	0.041	12.616	2.099	13.616	3.122	67.082	0.000	0.000	0.000	0.000	0.000	1.412	0.108	3.746	1.849	18.487	13.155
341	14.350	47.079	-14.350	-47.079	27.132	1.707	46.740	6.292	3	3	7	5	3	111.369	2.803	1.614	1.189	38.103	0.804	25.992	20.909	9.287	5.389	15.083	7.016	24.330	0.010	0.011	14.915	2.459	15.915	3.085	64.425	0.000	0.000	0.000	0.000	0.000	1.623	0.034	4.592	2.091	20.909	15.083
342	14.400	47.244	-14.400	-47.244	33.293	1.979	42.150	5.944	3	3	7	5	3	111.369	2.812	1.618	1.194	38.267	0.803	31.895	25.625	10.729	6.341	18.850	6.492	30.482	0.004	0.004	18.774	3.063	19.774	2.991	57.894	0.000	0.000	0.000	0.000	0.000	2.033	0.015	6.460	2.563	25.625	18.850
343	14.450	47.408	-14.450	-47.408	47.632	1.689	99.560	3.546	5	4	7	5	3	114.551	2.821	1.622	1.199	38.431	0.802	22.816	18.307	13.062	7.912	27.640	3.769	44.811	0.040	0.043	26.462	4.265	27.462	2.709	40.959	38.476	34.800	-0.208	3.646	173.727	0.000	0.000	0.000	3.661	36.614	27.640
344	14.500	47.572	-14.500	-47.572	81.272	1.200	-4.410	1.477	7	5	8	6	5	117.733	2.831	1.626	1.204	38.596	0.801	25.953	20.796	17.454	13.986	48.252	1.530	78.443	-0.017	-0.017	49.078	7.799	50.078	2.186	18.525	53.753	37.346	-0.159	2.809	228.360	0.000	0.000	0.000	6.239	62.389	62.389
345	14.550	47.736	-14.550	-47.736	82.047	1.044	18.820	1.272	8	5	9	6	5	120.915	2.841	1.631	1.210	38.760	0.800	19.650	15.723	17.307	13.848	48.584	1.318	79.208	-0.008	-0.008	48.965	7.804	49.965	2.142	17.113	53.983	37.385	-0.144	2.799	229.719	0.000	0.000	0.000	6.289	62.894	62.894
346	14.600	47.900	-14.600	-47.900	89.005	0.872	39.270	0.980	8	5	9	6	5	120.915	2.850	1.636	1.215	38.924	0.799	21.317	17.032	18.057	14.427	52.690	1.012	86.156	0.000	0.000	52.683	8.409	53.683	2.044	14.183	56.274	37.767	-0.128	2.695	239.976	0.000	0.000	0.000	6.813	68.127	68.127
347	14.650	48.064	-14.650	-48.064	71.052	0.776	35.520	1.092	8	5	8	6	5	120.915	2.860	1.641	1.220	39.088	0.798	17.017	13.576	15.059	12.015	41.582	1.138	68.193	-0.002	-0.002	41.650	6.701	42.650	2.154	17.484	49.775	36.683	-0.115	3.012	214.095	0.000	0.000	0.000	5.431	54.305	54.305
348	14.700	48.228	-14.700	-48.228	48.159	0.640	39.880	1.329	7	5	8	5	5	117.733	2.870	1.645	1.225	39.252	0.797	15.379	12.252	11.079	8.826	27.538	1.413	45.290	0.000	0.000	27.526	4.494	28.526	2.346	24.276	38.587	34.819	-0.093	3.645	175.629	0.000	0.000	0.000	3.676	36.756	36.756
349	14.750	48.392	-14.750	-48.392	40.175	0.453	176.930	1.128	7	5	6	5	5	117.733	2.880	1.650	1.230	39.416	0.796	12.829	10.207	9.359	7.446	22.615	1.215	37.296	0.107	0.115	20.012	3.320	21.012	2.374	25.380	33.352	33.946	-0.050	3.949	158.707	0.000	0.000	0.000	3.062	30.620	30.620
350	14.800	48.556	-14.800	-48.556	36.175	0.384	257.080	1.062	7	5	5	4	5	117.733	2.890	1.654	1.235	39.580	0.794	11.552	9.178	8.529	6.776	20.129	1.154	33.287	0.188	0.204	16.023	2.697	17.023	2.401	26.455	30.306	33.439	-0.024	0.000	0.000	0.000	0.000	0.000	2.753	27.534	27.534
351	14.850	48.720	-14.850	-48.720	37.939	0.569	222.550	1.500	7	4	6	4	4	117.733	2.899	1.659	1.240	39.744	0.793	12.115	9.612	9.222	7.317	21.132	1.624	35.041	0.150	0.163	17.690	2.969	18.690	2.467	29.235	31.632	33.659	-0.060	0.000	0.000	0.000	0.000	0.000	2.884	28.837	28.837
352	14.900	48.884	-14.900	-48.884	52.711	0.834	339.690	1.582	7	5	6	5	5	117.733	2.909	1.663	1.245	39.909	0.792	16.832	13.337	12.205	9.670	29.952	1.675	49.803	0.178	0.188	24.324	4.034	25.324	2.361	24.844	41.018	35.224	-0.095	3.508	185.008	0.000	0.000	0.000	4.001	40.010	40.010
353	14.950	49.048	-14.950	-49.048	73.940	0.950	155.340	1.285	8	5	8	6	5	120.915	2.919	1.668	1.251	40.073	0.791	17.709	14.011	15.876	12.561	42.594	1.338	71.022	0.049	0.051	40.436	6.619	41.436	2.185	18.509	50.679	36.834	-0.127	2.971	219.758	0.000	0.000	0.000	5.605	56.045	56.045
354	15.000	49.212	-15.000	-49.212	95.446	0.788	23.460	0.826	8	5	9	6	5	120.915	2.929	1.673	1.256	40.237	0.790	22.859	18.061	18.885	14.920	55.327	0.852	92.519	-0.005	-0.006	55.640	9.074	56.640	1.980	12.406	57.956	38.047	-0.118	2.631	251.248	0.000	0.000	0.000	7.224	72.243	72.243
355	15.050	49.376	-15.050	-49.376	92.411	0.386	11.380	0.418	9	6	9	6	6	124.097	2.939	1.678	1.261	40.401	0.789	17.706	13.969	17.340	13.679	53.349	0.431	89.474	-0.010	-0.010	53.889	8.819	54.889	1.837	5.000	56.987	37.885	-0.060	2.673	247.115	0.000	0.000	0.000	6.984	69.843	69.843
356	15.100	49.540	-15.100	-49.540	73.829	0.477	12.690	0.646	8	5	8	6	5	120.915	2.949	1.683	1.266	40.565	0.788	17.682	13.929	14.822	11.676	42.140	0.673	70.882	-0.012	-0.012	42.657	7.035	43.657	2.018	13.428	50.511	36.806	-0.075	2.983	220.316	0.000	0.000	0.000	5.572	55.717	55.717
357	15.150	49.704	-15.150	-49.704	51.907	0.625	36.390	1.204	7	5	8	5	5	117.733	2.958	1.687	1.271	40.729	0.787	16.576	13.040	11.694	9.199	29.021	1.277	48.950	-0.003	-0.003	29.100	4.864	30.100	2.299	22.473	40.373	35.116	-0.090	3.552	184.451	0.000	0.000	0.000	3.912	39.119	39.119
358	15.200	49.868	-15.200	-49.868	38.299	0.464	49.570	1.212	7	5	7	5	5	117.733	2.968	1.692	1.276	40.893	0.786	12.230	9.608	9.087	7.139	20.891	1.313	35.333	0.007	0.008	20.731	3.521	21.731	2.415	27.027	31.620	33.657	-0.059	0.000	0.000	0.000	0.000	0.000	2.882	28.825	28.825
359	15.250	50.032	-15.250	-50.032	31.576	0.383	29.870	1.213	7	4	7	5	5	117.733	2.978	1.697	1.281	41.058	0.785	10.083	7.911	8.253	4.601	16.865	1.339	28.600	-0.011	-0.012	17.071	2.936	18.071	2.616	36.159	0.000	32.729	-0.042	0.000	0.000	0.000	0.000	0.000	2.373	23.733	16.865
360	15.300	50.196	-15.300	-50.196	35.513	0.294	61.400	0.828	7	5	7	5	5	117.733	2.987	1.701	1.286	41.222	0.784	11.341	8.886	8.214	6.436	19.130	0.904	32.527	0.018	0.019	18.759	3.219	19.759	2.358	24.747	0.000	33.284	-0.022	0.000	0.000	0.000	0.000	0.000	2.666	26.657	26.657
361	15.350	50.360	-15.350	-50.360	50.790	0.331	56.110	0.652	8	5	8	5	5	120.915	2.997	1.706	1.291	41.386	0.782	12.164	9.518	10.821	8.467	28.032	0.693	47.794	0.009	0.010	27.762	4.698	28.762	2.167	17.895	39.595	34.987	-0.038	3.602	183.023	0.000	0.000	0.000	3.807	38.072	38.072
362	15.400	50.524	-15.400	-50.524	103.092	0.635	46.770	0.616	9	6	9	6	6	124.097	3.007	1.711	1.297	41.550	0.781	19.752	15.433	19.680	15.376	58.532	0.634	100.086	0.002	0.002	58.436	9.736	59.436	1.884	10.013	59.845	38.362	-0.098	2.564	264.442	0.000	0.000	0.000	7.716	77.165	77.165
363	15.450	50.688	-15.450	-50.688	130.646	0.971	61.770	0.743	9	6	9	6	6	124.097	3.017	1.716	1.302	41.714	0.780	25.032	19.529	24.586	19.181	74.420	0.761	127.629	0.005	0.005	74.054	12.331	75.054	1.845	9.111	66.592	39.486	-0.135	2.344	306.330	0.000	0.000	0.000	9.764	97.644	97.644
364	15.500	50.852	-15.500	-50.852	130.031	1.966	64.210	1.512	8	5	9	6	5	120.915	3.027	1.721	1.307	41.878	0.779	31.142	24.261	26.397	20.565	73.844	1.548	127.005	0.005	0.005	73.438	12.265	74.438	2.046	14.231	66.416	39.457	-0.201	2.350	305.656	0.000	0.000	0.000	9.705	97.046	97.046
365	15.550	51.016	-15.550	-51.016	119.043	2.213	61.340	1.859	7	5	9	6	5	117.733	3.037	1.725	1.312	42.042	0.778	38.014	29.575	25.060	19.497	67.267	1.908	116.007	0.005	0.005	66.917	11.221	67.917	2.137	16.957	63.846	39.028	-0.215	2.428	289.100	0.000	0.000	0.000	8.872	88.725	88.725
366	15.600	51.180	-15.600	-51.180	91.086	2.453	58.580	2.693	6	5	9	6	4	114.551	3.047	1.730	1.317	42.207	0.777	34.904	27.120	20.860	16.208	50.920	2.786	88.040	0.006	0.006	50.624	8.551	51.624	2.336	23.886	56.137	37.744	-0.237	2.721	247.937	0.000	0.000	0.000	6.780	67.801	67.801
367	15.650	51.345	-15.650	-51.345	71.863	2.405	14.960	3.347	6	4	8	6	4	114.551	3.056	1.734	1.322	42.371	0.776	27.538	21.371	17.566	13.632	39.699	3.495	68.808	-0.012	-0.012	40.192	6.840	41.192	2.479	29.751	49.307	36.605	-0.251	3.058	219.840	0.000	0.000	0.000	5.343	53.427	53.427
368	15.700	51.509	-15.700	-51.509	50.518	1.946	25.370	3.852	5	4	8	5	3	114.551	3.066	1.738	1.327	42.535	0.775	24.198	18.756	14.064	7.937	27.311	4.101	47.454	-0.011	-0.011	27.619	4.764	28.619	2.738	42.491	39.170	34.916	-0.235	3.635	183.716	0.000	0.000	0.000	3.751	37.512	27.311
369	15.750	51.673	-15.750	-51.673	37.584	1.518	106.370	4.039	5	3	7	5	3	114.551	3.075	1.743	1.332	42.699	0.774	18.003	13.937	11.215	6.171	19.813	4.399	34.510	0.053	0.058	18.671	3.282	19.671	2.863	49.692	0.000	0.000	0.000	0.000	0.000	2.302	0.249	6.981	2.787	27.873	19.813
370	15.800	51.837	-15.800	-51.837	30.256	1.125	193.220	3.718	5	3	5	4	3	114.551	3.084	1.747	1.338	42.863	0.773	14.493	11.206	9.373	5.032	15.562	4.140	27.173	0.155	0.173	12.874	2.321	13.874	2.926	53.659	0.000	0.000	0.000	0.000	0.000	1.812	0.587	4.814	2.241	22.411	15.562
371	15.850	52.001	-15.850	-52.001	30.346	1.087	148.390	3.582	5	3	6	4	3	114.551	3.094	1.751	1.343	43.027	0.772	14.536	11.225	9.343	5.004	15.570	3.988	27.254	0.108	0.121	13.691	2.463	14.691	2.916	53.004	0.000	0.000	0.000	0.000	0.000	1.818	0.411	4.818	2.245	22.450	15.570
372	15.900	52.165	-15.900	-52.165	35.002	1.147	166.880	3.277	5	3	6	4	3	114.551	3.103	1.755	1.348	43.191	0.771	16.766	12.932	10.283	5.576	18.180	3.596	31.900	0.110	0.121	15.980	2.854	16.980	2.835	48.062	0.000	0.000	0.000	0.000	0.000	2.128	0.483	6.108	2.586	25.863	18.180
373	15.950	52.329	-15.950	-52.329	38.070	1.091	189.000	2.866	6	4	6	5	3	114.551	3.113	1.760	1.353	43.356	0.770	14.588	11.238	10.766	5.867	19.875	3.121	34.959	0.119	0.130	17.290	3.082	18.290	2.767	44.102	30.886	33.535	-0.119	0.000	0.000	0.000	0.000	0.000	2.810	28.096	19.875
374	16.000	52.493	-16.000	-52.493	36.189	1.563	137.570	4.319	4	3	6	5	3	114.551	3.122	1.764	1.358	43.520	0.769	23.113	17.784	11.043	5.974	18.755	4.727	33.068	0.081	0.089	17.089	3.056	18.089	2.901	52.058	0.000	0.000	0.000	0.000	0.000	2.205	0.367	6.409	2.668	26.675	18.755
375	16.050	52.657	-16.050	-52.657	30.179	1.644	30.230	5.448	3	3	7	5	3	111.369	3.131	1.768	1.363	43.684	0.769	28.911	22.219	10.025	5.307	15.305	6.078	27.049	-0.014	-0.015	15.542	2.801	16.542	3.039	61.168	0.000	0.000	0.000	0.000	0.000	1.804	0.000	4.694	2.222	22.219	15.305
376	16.100	52.821	-16.100	-52.821	29.261	1.627	43.400	5.560	3	3	7	5	3	111.369	3.140	1.772	1.368	43.848	0.768	28.032	21.519	9.840	5.177	14.747	6.229	26.122	-0.000	-0.001	14.754	2.673	15.754	3.058	62.504	0.000	0.000	0.000	0.000	0.000	1.742	0.000	4.439	2.152	21.519	14.747
377	16.150	52.985	-16.150	-52.985	26.230	1.419	25.600	5.410	3	3	7	4	3	111.369	3.150	1.776	1.373	44.012	0.767	25.128	19.268	9.042	4.678	13.001	6.148	23.082	-0.022	-0.025	13.324	2.436	14.324	3.096	65.194	0.000	0.000	0.000	0.000	0.000	1.539	0.000	3.682	1.927	19.268	13.001
378	16.200	53.149	-16.200	-53.149	23.355	1.102	44.020	4.719	3	3	7	4	3	111.369	3.159	1.780	1.379	44.176	0.766	22.374	17.137	8.117	4.118	11.351	5.456	20.197	-0.000	-0.000	11.353	2.106	12.353	3.108	66.080	0.000	0.000	0.000	0.000	0.000	1.347	0.000	3.027	1.714	17.137	11.351
379	16.250	53.313	-16.250	-53.313	22.176	0.935	101.810	4.216	4	3	6	4	3	114.551	3.168	1.784	1.384	44.340	0.765	14.163	10.835	7.673	3.849	10.658	4.919	19.009	0.081	0.094	9.652	1.820	10.652	3.102	65.596	0.000	0.000	0.000	0.000	0.000	1.268	0.224	2.770	1.625	16.252	10.658
380	16.300	53.477	-16.300	-53.477	27.569	1.226	140.880	4.447	4	3	6	4	3	114.551	3.177	1.789	1.389	44.505	0.764	17.608	13.454	9.068	4.685	13.645	5.026	24.393	0.109	0.123	11.961	2.220	12.961	3.024	60.104	0.000	0.000	0.000	0.000	0.000	1.627	0.376	3.954	2.018	20.182	13.645
381	16.350	53.641	-16.350	-53.641	32.959	1.330	41.420	4.035	5	3	7	5	3	114.551	3.187	1.793	1.394	44.669	0.763	15.787	12.049	10.203	5.369	16.614	4.467	29.773	-0.003	-0.003	16.670	3.034	17.670	2.925	53.592	0.000	0.000	0.000	0.000	0.000	1.986	0.000	5.317	2.410	24.098	16.614
382	16.400	53.805	-16.400	-53.805	33.043	1.570	67.750	4.751	4	3	7	5	3	114.551	3.196	1.797	1.399	44.833	0.762	21.103	16.087	10.517	5.521	16.616	5.260	29.848	0.022	0.024	16.217	2.963	17.217	2.971	56.560	0.000	0.000	0.000	0.000	0.000	1.991	0.090	5.319	2.413	24.131	16.616
383	16.450	53.969	-16.450	-53.969	32.548	1.677	36.570	5.152	3	3	7	5	3	111.369	3.205	1.801	1.404	44.997	0.761	31.181	23.742	10.554	5.516	16.298	5.715	29.344	-0.008	-0.009	16.444	3.009	17.444	3.001	58.558	0.000	0.000	0.000	0.000	0.000	1.957	0.000	5.164	2.374	23.742	16.298
384	16.500	54.133	-16.500	-54.133	36.061	1.732	88.300	4.803	4	3	7	5	3	114.551	3.215	1.805	1.409	45.161	0.761	23.031	17.516	11.276	5.941	18.202	5.273	32.848	0.037	0.041	17.455	3.191	18.455	2.942	54.658	0.000	0.000	0.000	0.000	0.000	2.191	0.168	6.119	2.627	26.274	18.202
385	16.550	54.297	-16.550	-54.297	39.013	1.687	90.200	4.324	4	3	7	5	3	114.551	3.224	1.810	1.414	45.325	0.760	24.916	18.928	11.777	6.235	19.786	4.714	35.790	0.036	0.039	19.011	3.468	20.011	2.883	50.920	0.000	0.000	0.000	0.000	0.000	2.387	0.175	6.966	2.839	28.391	19.786
386	16.600	54.461	-16.600	-54.461	35.807	1.647	61.950	4.600	4	3	7	5	3	114.551	3.233	1.814	1.420	45.489	0.759	22.869	17.351	11.144	5.837	17.966	5.056	32.575	0.014	0.016	17.682	3.245	18.682	2.934	54.163	0.000	0.000	0.000	0.000	0.000	2.173	0.064	5.997	2.603	26.027	17.966
387	16.650	54.625	-16.650	-54.625	37.523	1.809	107.840	4.821	4	3	7	5	3	114.551	3.243	1.818	1.425	45.653	0.758	23.965	18.162	11.653	6.115	18.863	5.277	34.282	0.052	0.057	17.794	3.272	18.794	2.931	53.928	0.000	0.000	0.000	0.000	0.000	2.286	0.243	6.467	2.724	27.243	18.863
388	16.700	54.789	-16.700	-54.789	40.833	1.758	160.610	4.305	4	3	6	5	3	114.551	3.252	1.822	1.430	45.818	0.757	26.078	19.740	12.214	6.441	20.630	4.678	37.582	0.088	0.095	18.662	3.432	19.662	2.867	49.950	0.000	0.000	0.000	0.000	0.000	2.506	0.448	7.437	2.961	29.611	20.630
389	16.750	54.953	-16.750	-54.953	45.883	1.942	152.610	4.233	5	3	7	5	3	114.551	3.262	1.827	1.435	45.982	0.756	21.978	16.617	13.357	7.093	23.342	4.556	42.622	0.073	0.078	21.519	3.939	22.519	2.819	47.101	0.000	0.000	0.000	0.000	0.000	2.843	0.416	9.038	3.323	33.234	23.342
390	16.800	55.117	-16.800	-55.117	43.991	2.006	62.600	4.560	4	3	8	5	3	114.551	3.271	1.831	1.440	46.146	0.755	28.095	21.218	13.086	6.909	22.249	4.926	40.721	0.012	0.013	21.968	4.027	22.968	2.857	49.369	0.000	0.000	0.000	0.000	0.000	2.716	0.064	8.377	3.183	31.826	22.249
391	16.850	55.281	-16.850	-55.281	36.283	1.662	67.770	4.581	4	3	7	5	3	114.551	3.280	1.835	1.445	46.310	0.754	23.173	17.480	11.282	5.839	17.990	5.036	33.004	0.018	0.020	17.625	3.273	18.625	2.933	54.060	0.000	0.000	0.000	0.000	0.000	2.201	0.084	6.009	2.622	26.219	17.990
392	16.900	55.446	-16.900	-55.446	34.274	1.548	107.980	4.517	4	3	6	5	3	114.551	3.290	1.840	1.450	46.474	0.753	21.890	16.493	10.782	5.533	16.851	4.996	30.986	0.056	0.062	15.806	2.961	16.806	2.952	55.303	0.000	0.000	0.000	0.000	0.000	2.067	0.240	5.434	2.474	24.739	16.851

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
393	16.950	55.610	-16.950	-55.610	34.266	1.286	135.450	3.753	5	3	6	5	3	114.551	3.299	1.844	1.455	46.638	0.753	16.413	12.352	10.458	5.353	16.802	4.153	30.968	0.081	0.090	15.297	2.878	16.297	2.901	52.082	0.000	0.000	0.000	0.000	0.000	2.065	0.347	5.410	2.470	24.704	16.802
394	17.000	55.774	-17.000	-55.774	49.710	1.317	180.940	2.649	6	4	7	5	4	114.551	3.309	1.848	1.461	46.802	0.752	19.049	14.319	13.295	7.013	25.118	2.838	46.402	0.084	0.090	22.851	4.221	23.851	2.662	38.445	37.829	34.692	-0.142	3.742	186.093	0.000	0.000	0.000	3.580	35.797	25.118
395	17.050	55.938	-17.050	-55.938	104.810	1.637	169.770	1.562	8	5	8	6	5	120.915	3.318	1.853	1.466	46.967	0.751	25.102	18.846	22.079	16.576	54.805	1.613	101.493	0.037	0.038	52.734	9.533	53.734	2.139	17.009	59.176	38.250	-0.171	2.619	274.607	0.000	0.000	0.000	7.538	75.383	75.383
396	17.100	56.102	-17.100	-56.102	96.757	1.936	220.640	2.001	7	5	8	6	5	117.733	3.328	1.857	1.471	47.131	0.750	30.898	23.168	21.242	15.928	50.324	2.072	93.431	0.056	0.058	47.407	8.610	48.407	2.239	20.311	56.848	37.862	-0.188	2.716	262.948	0.000	0.000	0.000	6.950	69.504	69.504
397	17.150	56.266	-17.150	-56.266	100.838	2.894	429.040	2.870	6	5	7	5	4	114.551	3.338	1.862	1.476	47.295	0.749	38.641	28.940	23.095	17.297	52.393	2.968	97.502	0.118	0.122	45.990	8.377	46.990	2.336	23.891	57.998	38.054	-0.236	2.669	269.202	0.000	0.000	0.000	7.235	72.350	72.350
398	17.200	56.430	-17.200	-56.430	149.297	2.287	206.220	1.532	8	5	9	6	5	120.915	3.347	1.866	1.481	47.459	0.748	35.757	26.747	29.994	22.436	78.237	1.567	145.951	0.033	0.034	75.580	13.686	76.580	2.019	13.479	69.212	39.923	-0.205	2.301	343.627	0.000	0.000	0.000	10.699	106.988	106.988
399	17.250	56.594	-17.250	-56.594	140.877	1.936	18.800	1.374	8	5	9	6	5	120.915	3.357	1.871	1.486	47.623	0.747	33.740	25.206	28.154	21.033	73.529	1.408	137.522	-0.006	-0.007	74.009	13.440	75.009	2.006	13.107	67.511	39.639	-0.192	2.347	330.818	0.000	0.000	0.000	10.082	100.825	100.825
400	17.300	56.758	-17.300	-56.758	97.608	1.496	220.740	1.533	8	5	8	6	5	120.915	3.367	1.876	1.491	47.787	0.746	23.377	17.442	20.735	15.471	50.260	1.587	94.242	0.055	0.057	47.380	8.691	48.380	2.159	17.663	56.957	37.880	-0.159	2.716	265.178	0.000	0.000	0.000	6.977	69.768	69.768
401	17.350	56.922	-17.350	-56.922	68.293	1.524	367.230	2.232	7	4	6	5	4	117.733	3.377	1.881	1.496	47.951	0.745	21.808	16.251	16.011	11.931	34.535	2.348	64.917	0.146	0.154	29.232	5.444	30.232	2.389	25.950	46.684	36.168	-0.148	3.235	221.050	0.000	0.000	0.000	4.875	48.753	48.753
402	17.400	57.086	-17.400	-57.086	55.513	1.581	402.570	2.848	6	4	6	5	4	114.551	3.386	1.885	1.502	48.116	0.744	21.273	15.834	14.740	7.668	27.666	3.033	52.128	0.199	0.212	21.794	4.114	22.794	2.648	37.725	40.712	35.173	-0.145	3.582	198.917	0.000	0.000	0.000	3.958	39.584	27.666
403	17.450	57.250	-17.450	-57.250	53.699	1.702	405.120	3.170	6	4	5	4	3	114.551	3.396	1.889	1.507	48.280	0.743	20.577	15.299	14.582	7.551	26.638	3.383	50.305	0.207	0.221	20.739	3.933	21.739	2.691	39.965	39.727	35.009	-0.154	3.641	195.590	0.000	0.000	0.000	3.825	38.247	26.638
404	17.500	57.414	-17.500	-57.414	55.374	1.603	433.200	2.895	6	4	5	4	4	114.551	3.405	1.894	1.512	48.444	0.743	21.219	15.758	14.758	7.639	27.458	3.084	51.970	0.217	0.231	21.112	4.009	22.112	2.655	38.093	40.575	35.150	-0.143	3.592	198.984	0.000	0.000	0.000	3.940	39.396	27.458
405	17.550	57.578	-17.550	-57.578	48.583	1.549	312.860	3.188	6	4	6	4	3	114.551	3.415	1.898	1.517	48.608	0.742	18.617	13.810	13.482	6.897	23.811	3.429	45.170	0.170	0.183	19.463	3.719	20.463	2.732	42.162	36.792	34.519	-0.148	3.816	185.468	0.000	0.000	0.000	3.453	34.525	23.811
406	17.600	57.742	-17.600	-57.742	41.434	1.542	338.620	3.722	5	3	5	4	3	114.551	3.424	1.902	1.522	48.772	0.741	19.847	14.706	12.183	6.136	19.993	4.057	38.011	0.218	0.238	15.234	2.957	16.234	2.837	48.147	0.000	0.000	0.000	0.000	0.000	2.535	1.131	7.081	2.941	29.411	19.993
407	17.650	57.906	-17.650	-57.906	55.113	1.882	495.530	3.415	5	4	5	4	3	114.551	3.433	1.906	1.527	48.936	0.740	26.399	19.539	15.084	7.748	27.122	3.642	51.681	0.253	0.270	19.806	3.798	20.806	2.706	40.760	40.343	35.111	-0.160	3.609	198.978	0.000	0.000	0.000	3.908	39.078	27.122
408	17.700	58.070	-17.700	-58.070	80.768	1.738	83.040	2.152	7	5	8	6	4	117.733	3.443	1.911	1.532	49.100	0.739	25.792	19.067	18.402	13.604	40.486	2.248	77.327	0.013	0.014	39.931	7.489	40.931	2.324	23.440	51.265	36.932	-0.179	2.994	241.960	0.000	0.000	0.000	5.720	57.202	57.202
409	17.750	58.234	-17.750	-58.234	68.290	1.792	-16.080	2.624	6	4	8	5	4	114.551	3.453	1.915	1.537	49.265	0.738	26.169	19.324	16.386	12.100	33.870	2.764	64.839	-0.030	-0.031	34.935	6.590	35.935	2.439	28.044	46.421	36.124	-0.191	3.258	222.603	0.000	0.000	0.000	4.831	48.309	48.309
410	17.800	58.398	-17.800	-58.398	52.729	1.559	-8.210	2.957	6	4	8	5	4	114.551	3.462	1.919	1.542	49.429	0.738	20.206	14.904	14.269	7.254	25.679	3.164	49.268	-0.034	-0.036	26.616	5.076	27.616	2.684	39.618	38.977	34.884	-0.177	3.693	194.796	0.000	0.000	0.000	3.726	37.259	25.679
411	17.850	58.562	-17.850	-58.562	72.040	1.939	123.280	2.692	6	4	8	6	4	114.551	3.471	1.924	1.548	49.593	0.737	27.606	20.339	17.211	12.680	35.659	2.828	68.570	0.032	0.034	34.463	6.533	35.463	2.430	27.648	47.890	36.369	-0.192	3.178	229.055	0.000	0.000	0.000	5.085	50.848	50.848
412	17.900	58.726	-17.900	-58.726	144.833	3.260	224.680	2.251	7	5	8	6	5	117.733	3.481	1.928	1.553	49.757	0.736	46.250	34.037	30.699	22.592	73.342	2.306	141.353	0.038	0.039	70.509	13.203	71.509	2.154	17.489	67.874	39.700	-0.246	2.348	340.191	0.000	0.000	0.000	10.211	102.111	102.111
413	17.950	58.890	-17.950	-58.890	118.040	2.666	293.220	2.259	7	5	8	6	5	117.733	3.490	1.933	1.558	49.921	0.735	37.694	27.708	25.696	18.889	59.296	2.327	114.551	0.064	0.066	55.365	10.431	56.365	2.218	19.618	61.977	38.717	-0.220	2.531	298.847	0.000	0.000	0.000	8.312	83.124	83.124
414	18.000	59.054	-18.000	-59.054	102.296	3.037	585.600	2.969	6	4	7	5	4	114.551	3.500	1.937	1.563	50.085	0.734	39.200	28.782	23.561	17.299	51.025	3.074	98.797	0.163	0.169	42.392	8.049	43.392	2.349	24.381	57.841	38.028	-0.232	2.691	275.357	0.000	0.000	0.000	7.195	71.955	71.955
415	18.050	59.218	-18.050	-59.218	130.621	2.709	515.920	2.074	7	5	7	6	5	117.733	3.510	1.941	1.568	50.249	0.733	41.712	30.591	27.766	20.364	65.500	2.131	127.113	0.111	0.114	58.009	10.971	59.009	2.161	17.714	64.815	39.190	-0.213	2.439	318.735	0.000	0.000	0.000	9.177	91.774	91.774
416	18.100	59.382	-18.100	-59.382	121.444	3.690	202.410	3.038	6	5	8	6	4	114.551	3.519	1.946	1.573	50.413	0.733	46.537	34.092	27.433	20.097	60.628	3.129	117.926	0.039	0.040	58.189	11.029	59.189	2.305	22.702	62.694	38.836	-0.276	2.509	304.778	0.000	0.000	0.000	8.523	85.230	85.230
417	18.150	59.547	-18.150	-59.547	104.820	3.437	398.900	3.279	6	4	7	5	4	114.551	3.528	1.950	1.578	50.578	0.732	40.167	29.393	24.415	17.866	51.963	3.393	101.293	0.104	0.107	46.385	8.849	47.385	2.374	25.372	58.444	38.128	-0.264	2.668	279.819	0.000	0.000	0.000	7.348	73.483	73.483
418	18.200	59.711	-18.200	-59.711	167.899	4.181	666.150	2.490	7	5	8	6	4	117.733	3.538	1.955	1.583	50.742	0.731	53.616	39.190	35.458	25.918	84.127	2.544	164.362	0.114	0.117	74.294	14.093	75.294	2.145	17.204	71.915	40.373	-0.268	2.246	377.292	0.000	0.000	0.000	11.757	117.570	117.570
419	18.250	59.875	-18.250	-59.875	239.001	5.435	1.800	2.274	7	5	9	6	5	117.733	3.548	1.959	1.589	50.906	0.730	76.321	55.722	47.940	35.001	120.236	2.308	235.455	-0.006	-0.007	121.018	22.891	122.018	2.015	13.367	82.003	42.055	-0.307	2.004	479.055	0.000	0.000	0.000	16.717	167.165	167.165
420	18.300	60.039	-18.300	-60.039	198.883	5.923	59.750	2.978	7	5	9	6	4	117.733	3.557	1.964	1.594	51.070	0.729	63.510	46.315	42.225	30.793	99.514	3.032	195.327	0.001	0.001	99.375	18.874	100.375	2.158	17.619	76.703	41.171	-0.338	2.123	422.347	0.000	0.000	0.000	13.894	138.944	138.944
421	18.350	60.203	-18.350	-60.203	156.198	6.160	119.820	3.944	12	4	9	6	4	120.915	3.567	1.968	1.599	51.234	0.728	74.819	54.497	35.531	25.880	77.578	4.036	152.632	0.014	0.014	76.489	14.605	77.489	2.321	23.302	69.744	40.011	-0.386	2.305	360.194	0.000	0.000	0.000	10.899	108.994	108.994
422	18.400	60.367	-18.400	-60.367	129.885	4.698	96.900	3.617	6	4	9	6	4	114.551	3.577	1.973	1.604	51.398	0.728	49.772	36.212	29.852	21.719	64.051	3.719	126.310	0.011	0.011	63.330	12.153	64.330	2.344	24.198	64.423	39.125	-0.331	2.457	319.311	0.000	0.000	0.000	9.053	90.529	90.529
423	18.450	60.531	-18.450	-60.531	97.082	3.538	170.150	3.644	6	4	8	6	4	114.551	3.586	1.977	1.609	51.562	0.727	37.202	27.037	23.233	16.885	47.310	3.784	93.498	0.038	0.040	45.436	8.792	46.436	2.434	27.804	56.049	37.729	-0.288	2.777	269.703	0.000	0.000	0.000	6.759	67.592	67.592
424	18.500	60.695	-18.500	-60.695	67.177	3.213	158.140	4.783	11	3	7	5	3	130.461	3.596	1.982	1.614	51.727	0.726	64.356	46.713	18.814	9.382	32.093	5.053	63.582	0.049	0.052	30.416	5.963	31.416	2.749	43.100	0.000	0.000	0.000	0.000	0.000	4.241	0.415	10.000	4.671	46.713	32.093
425	18.550	60.859	-18.550	-60.859	73.618	3.722	350.440	5.056	11	3	7	5	3	130.461	3.607	1.988	1.619	51.891	0.725	70.526	51.120	20.471	10.228	35.239	5.316	70.012	0.127	0.133	30.548	6.005	31.548	2.736	42.371	0.000	0.000	0.000	0.000	0.000	4.669	1.165	10.000	5.112	51.120	35.239
426	18.600	61.023	-18.600	-61.023	159.355	4.460	337.150	2.799	7	5	8	6	4	117.733	3.617	1.993	1.624	52.055	0.724	50.887	36.838	34.447	24.937	78.188	2.864	155.739	0.056	0.057	73.720	14.258	74.720	2.202	19.049	70.141	40.078	-0.288	2.299	366.503	0.000	0.000	0.000	11.051	110.515	110.515
427	18.650	61.187	-18.650	-61.187	159.543	5.975	597.970	3.745	12	4	8	6	4	120.915	3.627	1.997	1.630	52.219	0.723	76.421	55.258	35.954	25.998	78.095	3.832	155.918	0.107	0.109	69.562	13.496	70.562	2.299	22.501	70.141	40.078	-0.354	2.300	367.067	0.000	0.000	0.000	11.052	110.516	110.516
428	18.700	61.351	-18.700	-61.351	214.711	6.136	1211.180	2.858	7	5	0	6	4	117.733	3.637	2.002	1.635	52.383	0.722	68.564	49.519	44.991	32.494	105.476	2.907	211.076	0.168	0.171	87.401	16.948	88.401	2.126	16.600	78.620	41.491	-0.312	2.078	446.377	0.000	0.000	0.000	14.856	148.557	148.557
429	18.750	61.515	-18.750	-61.515	304.304	7.458	239.240	2.451	7	5	9	6	8	117.733	3.646	2.007	1.640	52.547	0.721	97.174	70.102	60.229	43.450	149.901	2.481	300.659	0.019	0.019	146.995	28.437	147.995	1.981	12.429	88.584	43.151	-0.343	0.000	0.000	0.000	0.000	0.000	21.031	210.307	210.307
430	18.800	61.679	-18.800	-61.679	237.281	6.804	6.610	2.867	7	5	9	6	8	117.733	3.656	2.011	1.645	52.711	0.721	75.772	54.601	49.223	35.470	116.218	2.912	233.627	-0.006	-0.006	116.933	22.712	117.933	2.101	15.834	81.421	41.958	-0.349	2.018	478.954	0.000	0.000	0.000	16.380	163.803	163.803
431	18.850	61.843	-18.850	-61.843	159.644	6.046	359.420	3.787	12	4	8	6	4	120.915	3.666	2.016	1.650	52.876	0.720	76.469	55.040	36.055	25.951	77.412	3.876	155.979	0.060	0.061	72.663	14.219	73.663	2.304	22.685	70.028	40.059	-0.364	2.306	368.300	0.000	0.000	0.000	11.008	110.079	110.079
432	18.900	62.007	-18.900	-62.007	140.628	5.420	686.890	3.854	12	4	7	6	4	120.915	3.676	2.021	1.655	53.040	0.719	67.361	48.426	32.350	23.257	67.808	3.958	136.954	0.141	0.144	58.012	11.418	59.012	2.346	24.275	66.359	39.447	-0.337	2.408	338.774	0.000	0.000	0.000	9.685	96.852	96.852
433	18.950	62.171	-18.950	-62.171	129.087	0.010	869.390	0.008	9	0	0	5	0	124.097	3.686	2.025	1.660	53.204	0.718	24.733	17.759	0.000	0.000	61.938	0.008	125.403	0.197	0.203	49.355	9.767	50.355	1.757	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.880	88.796	88.796
434	19.000	62.335	-19.000	-62.335	115.481	0.010	1283.230	0.009	9	0	0	5	0	124.097	3.696	2.031	1.665	53.368	0.717	22.126	15.867	0.000	0.000	55.075	0.009	111.786	0.332	0.343	36.161	7.226	37.161	1.776	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.934	79.337	79.337

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
108	2.700	8.858	-2.700	-8.858	36.714	0.134	0.700	0.365	7	6	8	6	6	117.733	0.506	0.506	0.000	0.000	1.436	11.724	16.837	7.141	10.255	71.539	0.370	36.208	0.001	0.001	71.496	3.515	72.496	1.935	5.000	47.699	36.337	-0.073	2.926	107.470	0.000	0.000	0.000	5.051	50.511	50.511
109	2.750	9.022	-2.750	-9.022	37.024	0.149	0.690	0.402	7	6	8	6	6	117.733	0.516	0.515	0.001	0.023	1.424	11.823	16.831	7.250	10.321	70.881	0.408	36.509	0.001	0.001	70.840	3.545	71.840	1.952	5.000	47.689	36.336	-0.080	2.926	108.396	0.000	0.000	0.000	5.049	50.494	50.494
110	2.800	9.186	-2.800	-9.186	37.285	0.136	0.740	0.365	7	6	8	6	6	117.733	0.526	0.520	0.006	0.187	1.417	11.906	16.875	7.249	10.275	70.744	0.370	36.759	0.000	0.000	70.711	3.570	71.711	1.934	5.000	47.764	36.348	-0.072	2.923	109.011	0.000	0.000	0.000	5.063	50.626	50.626
111	2.850	9.350	-2.850	-9.350	37.525	0.183	0.820	0.488	7	6	8	6	6	117.733	0.535	0.524	0.011	0.351	1.411	11.983	16.911	7.447	10.509	70.572	0.495	36.990	0.000	0.000	70.545	3.592	71.545	1.988	5.000	47.824	36.358	-0.095	2.919	109.597	0.000	0.000	0.000	5.073	50.732	50.732
112	2.900	9.514	-2.900	-9.514	39.145	0.225	0.870	0.575	7	6	8	6	6	117.733	0.545	0.529	0.016	0.515	1.405	12.500	17.565	7.827	10.997	73.014	0.583	38.601	0.000	0.000	72.993	3.748	73.993	2.007	13.137	48.912	36.539	-0.112	2.863	112.119	0.000	0.000	0.000	5.269	52.695	52.695
113	2.950	9.678	-2.950	-9.678	54.528	0.179	1.350	0.328	8	6	8	6	6	120.915	0.555	0.534	0.021	0.680	1.399	13.060	18.270	9.985	13.969	101.199	0.332	53.974	0.000	0.000	101.160	5.220	102.160	1.769	5.000	58.286	38.102	-0.094	2.434	132.798	0.000	0.000	0.000	7.308	73.081	73.081
114	3.000	9.842	-3.000	-9.842	71.721	0.212	-1.450	0.296	8	6	8	6	6	120.915	0.565	0.538	0.026	0.844	1.393	17.177	23.923	12.575	17.513	132.227	0.298	71.156	-0.001	-0.001	132.360	6.875	133.360	1.643	5.000	66.014	39.390	-0.109	2.183	156.639	0.000	0.000	0.000	9.569	95.693	95.693
115	3.050	10.006	-3.050	-10.006	86.469	0.377	1.450	0.436	8	6	9	6	6	120.915	0.575	0.543	0.031	1.008	1.387	20.709	28.715	15.210	21.090	158.204	0.439	85.895	0.000	0.000	158.178	8.279	159.178	1.653	5.000	71.247	40.262	-0.157	2.060	178.172	0.000	0.000	0.000	11.486	114.860	114.860
116	3.100	10.170	-3.100	-10.170	98.414	0.485	2.220	0.493	9	6	9	7	6	124.097	0.585	0.548	0.037	1.172	1.380	18.856	26.028	17.212	23.758	178.565	0.496	97.829	0.000	0.000	178.506	9.421	179.506	1.636	4.960	74.826	40.858	-0.178	1.986	195.576	0.000	0.000	0.000	13.014	130.138	130.138
117	3.150	10.335	-3.150	-10.335	115.989	0.559	3.090	0.482	9	6	9	7	6	124.097	0.595	0.553	0.042	1.336	1.374	22.224	30.535	19.865	27.294	208.700	0.484	115.395	0.000	0.000	208.601	11.103	209.601	1.573	3.925	79.404	41.621	-0.190	1.904	220.932	0.000	0.000	0.000	15.268	152.675	152.675
118	3.200	10.499	-3.200	-10.499	136.315	0.647	4.070	0.475	9	6	9	7	6	124.097	0.605	0.558	0.047	1.500	1.368	26.118	35.723	22.897	31.318	243.218	0.477	135.711	0.001	0.001	243.075	13.047	244.075	1.513	3.029	83.902	42.371	-0.202	1.889	257.621	0.000	0.000	0.000	17.862	178.615	178.615
119	3.250	10.663	-3.250	-10.663	148.317	0.808	2.800	0.545	9	6	9	7	6	124.097	0.615	0.563	0.052	1.664	1.362	28.418	38.693	24.987	34.022	262.332	0.547	147.703	0.000	0.000	262.269	14.200	263.269	1.523	3.161	86.191	42.753	-0.221	1.970	292.325	0.000	0.000	0.000	19.347	193.467	193.467
120	3.300	10.827	-3.300	-10.827	152.415	0.685	4.030	0.449	9	6	9	7	6	124.097	0.625	0.568	0.057	1.829	1.356	29.203	39.585	25.193	34.150	267.192	0.451	151.790	0.000	0.000	267.071	14.589	268.071	1.463	2.333	86.844	42.862	-0.205	2.015	307.246	0.000	0.000	0.000	19.793	197.925	197.925
121	3.350	10.991	-3.350	-10.991	162.848	0.615	-0.270	0.378	9	7	9	7	6	124.097	0.636	0.573	0.062	1.993	1.350	31.202	42.108	26.363	35.578	283.020	0.379	162.213	-0.000	-0.000	283.143	15.602	284.143	1.397	1.493	88.615	43.157	-0.196	0.000	0.000	0.000	0.000	0.000	21.054	210.539	210.539
122	3.400	11.155	-3.400	-11.155	151.774	0.706	-0.980	0.465	9	6	9	7	6	124.097	0.646	0.578	0.067	2.157	1.344	29.080	39.072	25.196	33.854	261.374	0.467	151.128	-0.001	-0.001	261.543	14.543	262.543	1.477	2.516	86.471	42.799	-0.207	1.988	301.826	0.000	0.000	0.000	19.536	195.361	195.361
123	3.450	11.319	-3.450	-11.319	126.146	0.840	-8.630	0.666	9	6	9	7	6	124.097	0.656	0.584	0.072	2.321	1.338	24.170	32.334	22.083	29.542	215.152	0.669	125.490	-0.003	-0.003	215.738	12.111	216.738	1.638	5.008	81.045	41.895	-0.221	1.884	237.794	0.000	0.000	0.000	16.167	161.668	161.668
124	3.500	11.483	-3.500	-11.483	112.593	0.852	-9.090	0.757	9	6	9	7	6	124.097	0.666	0.589	0.078	2.485	1.332	21.573	28.735	20.223	26.938	190.248	0.761	111.927	-0.003	-0.003	190.862	10.814	191.862	1.714	6.374	77.663	41.331	-0.222	1.933	217.693	0.000	0.000	0.000	14.368	143.677	143.677
125	3.550	11.647	-3.550	-11.647	113.149	0.722	-9.740	0.638	9	6	9	7	6	124.097	0.676	0.594	0.083	2.649	1.326	21.679	28.754	19.999	26.525	189.547	0.642	112.473	-0.003	-0.003	190.198	10.869	191.198	1.667	5.506	77.681	41.334	-0.206	1.932	218.730	0.000	0.000	0.000	14.377	143.770	143.770
126	3.600	11.811	-3.600	-11.811	114.092	0.405	-10.970	0.355	9	6	9	7	6	124.097	0.686	0.599	0.088	2.813	1.321	21.860	28.871	19.214	25.376	189.502	0.357	113.405	-0.004	-0.004	190.221	10.963	191.221	1.521	3.145	77.798	41.354	-0.156	1.930	220.317	0.000	0.000	0.000	14.435	144.353	144.353
127	3.650	11.975	-3.650	-11.975	115.992	0.341	-9.330	0.294	9	6	9	7	6	124.097	0.697	0.604	0.093	2.977	1.315	22.224	29.228	19.255	25.323	191.046	0.296	115.295	-0.003	-0.003	191.683	11.140	192.683	1.477	2.514	78.150	41.413	-0.140	1.924	223.272	0.000	0.000	0.000	14.614	146.141	146.141
128	3.700	12.139	-3.700	-12.139	117.009	0.322	-8.120	0.275	9	6	9	7	6	124.097	0.707	0.609	0.098	3.142	1.310	22.419	29.362	19.331	25.318	191.114	0.277	116.303	-0.003	-0.003	191.691	11.234	192.691	1.462	2.312	78.281	41.434	-0.135	1.922	224.969	0.000	0.000	0.000	14.681	146.809	146.809
129	3.750	12.303	-3.750	-12.303	118.905	0.440	-7.240	0.370	9	6	9	7	6	124.097	0.717	0.614	0.103	3.306	1.304	22.782	29.714	20.015	26.105	192.611	0.372	118.188	-0.003	-0.003	193.147	11.413	194.147	1.520	3.124	78.623	41.491	-0.160	1.916	227.934	0.000	0.000	0.000	14.857	148.572	148.572
130	3.800	12.467	-3.800	-12.467	114.833	0.578	-5.990	0.503	9	6	9	7	6	124.097	0.727	0.619	0.108	3.470	1.299	22.002	28.579	19.895	25.842	184.438	0.507	114.106	-0.003	-0.003	184.915	11.019	185.915	1.608	4.485	77.507	41.305	-0.183	1.935	222.344	0.000	0.000	0.000	14.290	142.896	142.896
131	3.850	12.631	-3.850	-12.631	109.680	0.634	-3.270	0.578	9	6	9	7	6	124.097	0.737	0.624	0.113	3.634	1.294	21.015	27.186	19.343	25.024	174.664	0.582	108.943	-0.002	-0.002	175.010	10.517	176.010	1.660	5.392	76.074	41.066	-0.190	1.962	215.298	0.000	0.000	0.000	13.593	135.929	135.929
132	3.900	12.795	-3.900	-12.795	103.567	0.691	-2.010	0.667	9	6	9	6	6	124.097	0.748	0.629	0.119	3.798	1.288	19.844	25.567	18.639	24.015	163.523	0.672	102.820	-0.002	-0.002	163.811	9.928	164.811	1.719	6.483	74.315	40.773	-0.197	1.997	206.868	0.000	0.000	0.000	12.784	127.837	127.837
133	3.950	12.959	-3.950	-12.959	96.072	0.671	-1.210	0.698	8	6	9	6	6	120.915	0.758	0.634	0.124	3.962	1.283	23.009	29.531	17.530	22.499	150.408	0.704	95.315	-0.002	-0.002	150.663	9.207	151.663	1.759	7.263	72.050	40.396	-0.193	2.043	196.333	0.000	0.000	0.000	11.812	118.124	118.124
134	4.000	13.123	-4.000	-13.123	96.467	0.632	-0.410	0.655	8	6	9	6	6	120.915	0.768	0.639	0.129	4.126	1.279	23.104	29.541	17.499	22.374	149.882	0.660	95.700	-0.001	-0.001	150.103	9.243	151.103	1.742	6.926	72.059	40.397	-0.187	2.043	197.121	0.000	0.000	0.000	11.816	118.163	118.163
135	4.050	13.287	-4.050	-13.287	90.083	0.618	0.520	0.686	8	6	9	6	6	120.915	0.777	0.644	0.134	4.291	1.274	21.575	27.483	16.557	21.090	138.825	0.692	89.306	-0.001	-0.001	139.007	8.628	140.007	1.779	7.683	69.989	40.052	-0.184	2.087	188.082	0.000	0.000	0.000	10.993	109.931	109.931
136	4.100	13.451	-4.100	-13.451	88.905	0.629	0.840	0.707	8	6	9	6	6	120.915	0.787	0.648	0.139	4.455	1.269	21.293	27.023	16.421	20.840	135.964	0.714	88.118	-0.001	-0.001	136.138	8.515	137.138	1.793	7.975	69.505	39.972	-0.185	2.098	186.586	0.000	0.000	0.000	10.809	108.091	108.091
137	4.150	13.615	-4.150	-13.615	87.791	0.626	1.770	0.713	8	6	9	6	6	120.915	0.797	0.653	0.144	4.619	1.264	21.026	26.586	16.261	20.560	133.244	0.720	86.994	-0.001	-0.001	133.380	8.405	134.380	1.801	8.140	69.038	39.894	-0.184	2.108	185.183	0.000	0.000	0.000	10.634	106.344	106.344
138	4.200	13.779	-4.200	-13.779	90.377	0.643	2.710	0.711	8	6	9	6	6	120.915	0.807	0.658	0.149	4.783	1.260	21.645	27.269	16.683	21.018	136.189	0.718	89.570	-0.001	-0.001	136.287	8.650	137.287	1.791	7.940	69.766	40.015	-0.186	2.092	189.146	0.000	0.000	0.000	10.908	109.076	109.076
139	4.250	13.943	-4.250	-13.943	98.922	0.711	3.580	0.719	8	6	9	6	6	120.915	0.817	0.663	0.154	4.947	1.255	23.692	29.739	18.084	22.700	148.087	0.725	98.106	-0.000	-0.000	148.151	9.466	149.151	1.764	7.370	72.251	40.429	-0.194	2.039	201.742	0.000	0.000	0.000	11.896	118.957	118.957
140	4.300	14.107	-4.300	-14.107	105.006	0.758	4.210	0.722	9	6	9	6	6	124.097	0.827	0.668	0.160	5.111	1.251	20.119	25.161	19.074	23.855	156.094	0.728	104.179	-0.000	-0.000	156.136	10.047	157.136	1.746	7.006	73.856	40.697	-0.200	2.006	210.708	0.000	0.000	0.000	12.581	125.806	125.806
141	4.350	14.271	-4.350	-14.271	108.588	0.827	4.560	0.762	9	6	9	6	6	124.097	0.837	0.673	0.165	5.275	1.246	20.806	25.921	19.756	24.614	160.232	0.768	107.751	-0.000	-0.000	160.265	10.389	161.265	1.750	7.094	74.709	40.839	-0.207	1.989	216.047	0.000	0.000	0.000	12.961	129.607	129.607
142	4.400	14.436	-4.400	-14.436	108.940	0.855	4.860	0.785	8	6	9	6	6	120.915	0.847	0.678	0.170	5.440	1.241	26.091	32.388	19.879	24.676	159.571	0.791	108.093	-0.000	-0.000	159.598	10.422	160.598	1.759	7.264	74.697	40.837	-0.209	1.989	216.773	0.000	0.000	0.000	12.955	129.554	129.554
143	4.450	14.600	-4.450	-14.600	111.572	0.853	5.060	0.765	9	6	9	6	6	124.097	0.857	0.683	0.175	5.604	1.237	21.377	26.441	20.259	25.057	162.260	0.770	110.714	-0.000	-0.000	162.285	10.673	163.285	1.745	6.982	75.277	40.934	-0.208	1.978	220.734	0.000	0.000	0.000	13.220	132.203	132.203
144	4.500	14.764	-4.500	-14.764	113.573	0.856	5.330	0.754	9	6	9	6	6	124.097	0.868	0.688	0.180	5.768	1.232	21.761	26.816	20.560	25.336	163.964	0.759	112.706	-0.000	-0.000	163.983	10.864	164.983	1.736	6.810	75.681	41.001	-0.208	1.970	223.801	0.000	0.000	0.000	13.408	134.079	134.079
145	4.550	14.928	-4.550	-14.928	114.965	0.861	5.660	0.749	9	6	9	6	6	124.097	0.878	0.693	0.185	5.932	1.228	22.027	27.045	20.778	25.511	164.762	0.755	114.088	-0.000	-0.000	164.774	10.997	165.774	1.731	6.720	75.925	41.042	-0.208	1.965	226.003	0.000	0.000	0.000	13.523	135.225	135.225
146	4.600	15.092	-4.600	-15.092	116.097	0.870	5.930	0.749	9	6	9	6	6	124.097	0.888	0.698	0.190	6.096	1.223	22.244	27.212	20.969	25.652	165.175	0.755	115.209	-0.000	-0.000	165.182	11.104	166.182	1.730	6.683	76.102	41.071	-0.208	1.962	227.834	0.000	0.000	0.000	13.606	136.061	136.061
147	4.650	15.256	-4.650	-15.256	118.828	0.877	6.070	0.738	9	6	9	6	6	124.097	0.898	0.703	0.195	6.260	1.219	22.767	27.752	21.381	26.062	167.859	0.744	117.930	-0.000	-0.000	167.867	11.366	168.867	1.719	6.473	76.665	41.165	-0.208	1.951	231.924	0.000	0.000	0.000	13.876	138.759	138.759
148	4.700	15.420	-4.700	-15.420	121.319	0.897	6.290	0.739	9	6	9	6	6	124.097	0.908	0.708	0.200	6.424	1.215	23.245	28.232	21.790	26.465	170.165	0.745	120.411	-0.000	-0.000	170.171	11.604	171.171	1.713	6.372	77.157	41.247	-0.210	1.942	235.677	0.000	0.000	0.000	14.116	141.161	141.161
149	4.750	15.584	-4.750	-15.584	125.101	0.921	6.500	0.736	9	6	9	7	6	124.097	0.919	0.713	0.206	6.589	1.210	23.969	29.009	22.389	27.096	174.249	0.742	124.182	-0.000	-0.000	174.253	11.965	175.253	1.703	6.177	77.934	41.376	-0.211	1.928	241.275	0.000	0.000	0.000	14.504	145.043	145.043
150	4.800	15.748	-4.800	-15.748	134.515	0.993	7.260	0.738	9	6	9	7	6	124.097	0.929	0.718	0.211	6.753	1.206	25.773	31.082	23.890	28.811	186.125	0.743	133.587	0.000	0.000	186.103	12.865	187.103	1.681	5.763	79.913	41.706	-0.218	1.897	255.262	0.000	0.000	0.000	15.541	155.408	155.408
151	4.850	15.912	-4.850	-15.912	149.528	1.048	7.640	0.701	9	6	9	7	6	124.097	0.939	0.723	0.216	6.917	1.202	28.650	34.429	26.122	31.392	205.579	0.705	148.589	0.000	0.000	205.547	14.302	206.547	1.632	4.903	82.845	42.195	-0.222	1.879	281.066	0.000	0.000	0.000	17.215	172.147	172.147
152	4.900	16.076	-4.900	-16.076	155.789	1.142	7.780	0.733	9	6	9	7	6	124.097	0.949	0.728	0.221	7.081	1.198	29.849	35.746	27.221	32.599	212.738	0.738	154.840	0.000	0.000	212.708	14.901	213.708	1.633	4.913	83.921	42.374	-0.229	1.889	294.470	0.000	0.000	0.000	17.873	178.731	178.731
153	4.950	16.240	-4.950	-16.240	155.040	1.128	8.070	0.728	9	6	9	7	6	124.097	0.959	0.733	0.226	7.245	1.193	29.706	35.452	27.095	32.336	210.235	0.732	154.081	0.000	0.000	210.200	14.829	211.200	1.633	4.922	83.683	42.335	-0.227	1.886	292.517	0.000	0.000	0.000	17.726	177.258	177.258
154	5.000	16.404	-5.000	-16.404	154.549	1.005	7.770	0.650	9	6	9	7	6	124.097	0.969	0.738	0.231	7.409	1.189	29.611	35.218	26.741	31.804	208.114	0.654	153.579	0.000	0.000	208.099	14.783	209.099	1.604	4.422	83.494	42.303	-0.216	1.884	291.237	0.000	0.000	0.000	17.609	176.089	176.089
155	5.050	16.568	-5.050	-16.568	151.799	1.014	4.590	0.668	9	6	9	7	6	124.097	0.980	0.743	0.236	7.573	1.185	29.085	34.473	26.395	31.285	202.983	0.672	150.819	-0.001	-0.001	203.108	14.529	204.108	1.618	4.666	82.881	42.201	-0.216	1.879	285.358	0.000	0.000	0.000	17.237	172.366	172.366
156	5.100	16.732	-5.100	-16.732	152.709	1.022	6.320	0.669	9	6	9	7	6	124.097	0.990	0.748	0.241	7.737	1.181	29.259	34.563	26.550	31.363	202.815	0.674	151.720	-0.000	-0.000	202.874	14.611	203.874	1.618	4.661	82.955	42.213	-0.216	1.879	287.124	0.000	0.000	0.000	17.281	172.813	172.813
157	5.150	16.896	-5.150	-16.896	153.697	1.044	7.520	0.679	9	6	9	7	6	124.097	1.000	0.753	0.247	7.902	1.177	29.448	34.669	26.750	31.493	202.750	0.684	152.697	-0.000	-0.000	202.766	14.702	203.766	1.621	4.714	83.044	42.228	-0.218	1.880	289.055	0.000	0.000	0.000	17.335	173.346	173.346
158	5.200	17.060	-5.200	-17.060	161.813	1.072	8.510	0.662	9	6	9	7	6	124.097	1.010	0.758	0.252	8.066	1.173	31.003	36.378	27.947	32.792	212.089	0.667	160.803	0.000	0.000	212.071	15.476	213.071	1.598	4.333	84.423	42.458	-0.220	1.899	307.461	0.000	0.000	0.000	18.189	181.890	181.890
159	5.250	17.224	-5.250	-17.224	166.736	1.107	8.980	0.664	9	6	9	7	6	124.097	1.020	0.764	0.257	8.230	1.169	31.947	37.360	28.719	33.586	217.121	0.668	165.716	0.000	0.000	217.090	15.946	218.090	1.590	4.200	85.186	42.585	-0.222	1.922	320.625	0.000	0.000	0.000	18.680	186.802	186.802
160	5.300	17.388	-5.300	-17.388	164.626	1.135	8.920	0.689	9	6	9	7	6	124.097	1.031	0.769	0.262	8.394	1.166	31.542	36.766	28.508	33.229	212.931	0.694	163.596	0.000	0.000	212.910	15.744	213.910	1.606	4.462	84.727	42.509	-0.224	1.907	314.103	0.000	0.000	0.000	18.383	183.829	183.829
161	5.350	17.552	-5.350	-17.552	155.100	1.106	9.630	0.713	9	6	9	7	6	124.097	1.041	0.774	0.267	8.558	1.162	29.717	34.525	27.133	31.523	199.209	0.718	154.060	0.000	0.000	199.165	14.830	200.165	1.636	4.974	82.924	42.208	-0.221	1.879	291.595	0.000	0.000	0.000	17.263	172.625	172.625
162	5.400	17.716	-5.400	-17.716	147.255	1.040	8.840	0.706	9	6	9	7	6	124.097	1.051	0.779	0.272	8.722	1.158	28.214	32.672	25.897	29.989	187.823	0.711	146.205	0.000	0.000	187.818	14.081	188.818	1.652	5.244	81.343	41.945	-0.214	1.882	277.239	0.000	0.000	0.000	16.336	163.361	163.361
163	5.450	17.880	-5.450	-17.880	141.397	0.982	9.100	0.694	9	6	9	7	6	124.097	1.061	0.784	0.277	8.886	1.154	27.092	31.271	24.951	28.800	179.120	0.700	140.336	0.000	0.000	179.112	13.519	180.112	1.662	5.421	80.087	41.735	-0.209	1.895	268.012	0.000	0.000	0.000	15.635	156.354	156.354
164	5.500	18.044	-5.500	-18.044	131.627	0.936	9.090	0.711	9	6	9	6	6	124.097	1.071	0.789	0.282	9.051	1.151	25.220	29.017	23.480	27.015	165.568	0.717	130.556	0.000	0.000	165.567	12.583	166.567	1.694	5.999	77.942	41.378	-0.204	1.928	253.946	0.000	0.000	0.000	14.508	145.083	145.083
165	5.550	18.208	-5.550	-18.208	125.019	0.882	9.440	0.705	9	6	9	6	6	124.097	1.081	0.794	0.288	9.215	1.147	23.954	27.472	22.428	25.722	156.174	0.712	123.938	0.000	0.000	156.165	11.949	157.165	1.710	6.308	76.374	41.116	-0.198	1.958	244.892	0.000	0.000	0.000	13.736	137.360	137.360
166	5.600	18.372	-5.600	-18.372	122.190	0.829	9.610	0.678	9	6	9	6	6	124.097	1.092	0.799	0.293	9.379	1.143	23.412	26.765	21.908	25.047	151.630	0.685	121.099	0.000	0.000	151.621	11.677	152.621	1.708	6.277	75.627	40.992	-0.191	1.973	241.204	0.000	0.000	0.000	13.383	133.826	133.826
167	5.650	18.537	-5.650	-18.537	122.610	0.819	9.650	0.668	9	6	9	6	6	124.097	1.102	0.804	0.298	9.543	1.140	23.492	26.773	21.951	25.017	151.186	0.674	121.509	0.000	0.000	151.182	11.717	152.182	1.704	6.196	75.635	40.993	-0.190	1.974	242.109	0.000	0.000	0.000	13.386	133.863	133.863
168	5.700	18.701	-5.700	-18.701	125.762	0.848	9.870	0.674	9	6	9	6	6	124.097	1.112	0.809	0.303	9.707	1.136	24.096	27.375	22.476	25.534	154.125	0.680	124.650	0.000	0.000	154.118	12.018	155.118	1.699	6.100

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
215	8.050	26.410	-8.050	-26.410	74.289	0.329	19.040	0.443	8	6	8	6	6	120.915	1.587	1.043	0.544	17.422	1.001	17.792	17.804	13.951	13.960	69.745	0.453	72.703	0.001	0.001	69.696	7.060	70.696	1.839	5.000	57.546	37.978	-0.087	2.518	187.100	0.000	0.000	0.000	7.122	71.217	71.217
216	8.100	26.574	-8.100	-26.574	77.116	0.392	21.760	0.508	8	6	8	6	6	120.915	1.596	1.048	0.549	17.586	0.998	18.469	18.440	14.566	14.542	72.115	0.519	75.520	0.002	0.002	71.991	7.323	72.991	1.855	9.340	58.551	38.146	-0.101	2.479	191.211	0.000	0.000	0.000	7.376	73.758	73.758
217	8.150	26.739	-8.150	-26.739	72.709	0.490	22.190	0.674	8	6	8	6	6	120.915	1.606	1.052	0.554	17.750	0.996	17.414	17.346	14.184	14.129	67.588	0.689	71.103	0.002	0.002	67.456	6.899	68.456	1.942	11.440	56.798	37.854	-0.118	2.550	185.507	0.000	0.000	0.000	6.938	69.384	69.384
218	8.200	26.903	-8.200	-26.903	60.164	0.616	24.680	1.024	8	5	8	6	5	120.915	1.616	1.057	0.559	17.914	0.994	14.409	14.321	12.553	12.475	55.401	1.052	58.548	0.004	0.004	55.201	5.690	56.201	2.115	16.269	51.305	36.938	-0.136	2.804	168.741	0.000	0.000	0.000	5.728	57.283	57.283
219	8.250	27.067	-8.250	-27.067	50.975	0.694	29.690	1.361	7	5	8	6	5	117.733	1.626	1.062	0.564	18.078	0.992	16.278	16.142	11.241	11.147	46.492	1.406	49.350	0.007	0.007	46.150	4.795	47.150	2.249	20.675	46.491	36.136	-0.144	3.055	155.792	0.000	0.000	0.000	4.843	48.427	48.427
220	8.300	27.231	-8.300	-27.231	39.734	0.716	34.350	1.802	6	5	7	6	5	114.551	1.636	1.066	0.569	18.242	0.990	15.226	15.068	9.416	9.319	35.745	1.879	38.100	0.013	0.013	35.273	3.704	36.273	2.412	26.916	39.291	34.936	-0.145	3.457	137.412	0.000	0.000	0.000	3.767	37.670	37.670
221	8.350	27.395	-8.350	-27.395	30.949	0.826	71.890	2.669	6	4	6	5	4	114.551	1.645	1.071	0.574	18.406	0.988	11.860	11.713	8.147	7.525	27.384	2.819	29.304	0.054	0.057	25.823	2.750	26.823	2.631	36.872	32.071	33.733	-0.156	0.000	0.000	0.000	0.000	0.000	2.928	29.282	27.384
222	8.400	27.559	-8.400	-27.559	26.300	0.789	92.970	3.000	5	4	6	5	4	114.551	1.654	1.075	0.580	18.571	0.986	12.598	12.417	7.273	6.621	22.939	3.201	24.647	0.088	0.094	20.778	2.242	21.778	2.725	41.804	0.000	32.946	-0.146	0.000	0.000	0.000	0.000	2.483	24.835	22.939
223	8.450	27.723	-8.450	-27.723	23.202	0.687	46.710	2.961	5	4	6	5	3	114.551	1.664	1.079	0.585	18.735	0.984	11.114	10.933	6.577	5.908	19.967	3.190	21.538	0.038	0.041	19.157	2.083	20.157	2.771	44.344	0.000	32.337	-0.135	0.000	0.000	0.000	0.000	2.187	21.865	19.967
224	8.500	27.887	-8.500	-27.887	21.726	0.860	28.140	3.958	4	3	7	5	3	114.551	1.673	1.083	0.590	18.899	0.982	13.875	13.622	6.540	5.819	18.517	4.289	20.053	0.013	0.014	18.250	1.997	19.250	2.878	50.624	0.000	0.000	0.000	0.000	1.337	0.036	6.284	2.043	20.434	18.517
225	8.550	28.051	-8.550	-28.051	20.985	1.026	8.780	4.889	3	3	7	5	3	111.369	1.682	1.088	0.595	19.063	0.980	20.103	19.699	6.603	5.832	17.756	5.315	19.303	-0.015	-0.017	18.051	1.984	19.051	2.952	55.331	0.000	0.000	0.000	0.000	1.287	0.000	5.889	1.970	19.699	17.756
226	8.600	28.215	-8.600	-28.215	21.320	1.180	4.750	5.535	3	3	7	5	3	111.369	1.692	1.092	0.600	19.227	0.978	20.424	19.977	6.838	6.023	17.989	6.012	19.629	-0.021	-0.023	18.403	2.028	19.403	2.984	57.389	0.000	0.000	0.000	0.000	1.309	0.000	6.009	1.998	19.977	17.989
227	8.650	28.379	-8.650	-28.379	21.517	1.330	2.670	6.181	3	3	7	5	3	111.369	1.701	1.096	0.605	19.391	0.976	20.613	20.124	7.034	6.175	18.095	6.712	19.817	-0.024	-0.026	18.571	2.053	19.571	3.014	59.435	0.000	0.000	0.000	0.000	1.322	0.000	6.063	2.012	20.124	18.095
228	8.700	28.543	-8.700	-28.543	23.760	1.411	-4.840	5.939	3	3	7	5	3	111.369	1.710	1.100	0.610	19.555	0.975	22.762	22.182	7.544	6.649	20.061	6.399	22.051	-0.032	-0.035	20.754	2.291	21.754	2.967	56.296	0.000	0.000	0.000	0.000	1.471	0.000	7.119	2.218	22.182	20.061
229	8.750	28.707	-8.750	-28.707	29.942	1.464	-4.520	4.889	3	3	7	5	3	111.369	1.719	1.104	0.615	19.720	0.973	28.684	27.902	8.759	7.812	25.584	5.187	28.223	-0.025	-0.027	26.269	2.882	27.269	2.828	47.610	0.000	0.000	0.000	0.000	1.882	0.000	10.000	2.790	27.902	25.584
230	8.800	28.871	-8.800	-28.871	35.428	1.651	-9.930	4.660	4	3	7	5	3	114.551	1.728	1.108	0.620	19.884	0.971	22.627	21.969	9.960	8.932	30.434	4.899	33.700	-0.026	-0.028	31.274	3.424	32.274	2.756	43.497	0.000	0.000	0.000	0.000	2.248	0.000	10.000	3.295	32.953	30.434
231	8.850	29.035	-8.850	-29.035	31.653	1.776	-10.680	5.611	3	3	7	5	3	111.369	1.738	1.112	0.626	20.048	0.969	30.324	29.387	9.390	8.335	26.916	5.937	29.917	-0.030	-0.032	27.779	3.064	28.779	2.852	49.075	0.000	0.000	0.000	0.000	1.995	0.000	10.000	2.939	29.387	26.916
232	8.900	29.199	-8.900	-29.199	27.588	1.973	-9.990	7.152	3	3	7	5	3	111.369	1.747	1.116	0.631	20.212	0.967	26.429	25.566	8.804	7.717	23.167	7.635	25.842	-0.034	-0.036	24.011	2.673	25.011	2.975	56.847	0.000	0.000	0.000	0.000	1.723	0.000	8.930	2.557	25.566	23.167
233	8.950	29.363	-8.950	-29.363	33.402	1.790	-10.820	5.359	3	3	7	5	3	111.369	1.756	1.120	0.636	20.376	0.966	32.000	30.900	9.742	8.606	28.270	5.656	31.647	-0.029	-0.031	29.139	3.232	30.139	2.822	47.297	0.000	0.000	0.000	0.000	2.111	0.000	10.000	3.090	30.900	28.270
234	9.000	29.527	-9.000	-29.527	43.720	1.461	-11.280	3.342	5	4	8	6	4	114.551	1.765	1.124	0.641	20.540	0.964	20.942	20.184	11.137	10.735	37.339	3.482	41.955	-0.023	-0.024	38.223	4.222	39.223	2.565	33.667	41.274	35.267	-0.243	3.359	146.931	0.000	0.000	0.000	4.037	40.369	40.369
235	9.050	29.691	-9.050	-29.691	52.394	0.958	-12.150	1.828	7	5	8	6	5	117.733	1.775	1.129	0.646	20.704	0.962	16.731	16.095	11.969	11.514	44.875	1.893	50.620	-0.020	-0.020	45.783	5.056	46.783	2.331	23.672	46.406	36.122	-0.173	3.075	161.185	0.000	0.000	0.000	4.828	48.284	48.284
236	9.100	29.855	-9.100	-29.855	50.946	0.760	-11.850	1.492	7	5	8	6	5	117.733	1.784	1.133	0.651	20.869	0.960	16.269	15.618	11.411	10.955	43.408	1.546	49.162	-0.020	-0.021	44.309	4.916	45.309	2.285	21.984	45.546	35.978	-0.149	3.123	159.180	0.000	0.000	0.000	4.686	46.855	46.855
237	9.150	30.019	-9.150	-30.019	40.115	0.703	-10.390	1.752	6	5	8	5	5	114.551	1.794	1.137	0.656	21.033	0.958	15.372	14.729	9.512	9.114	33.705	1.834	38.322	-0.024	-0.026	34.568	3.874	35.568	2.414	26.970	38.639	34.827	-0.140	3.512	140.939	0.000	0.000	0.000	3.682	36.823	36.823
238	9.200	30.183	-9.200	-30.183	36.732	0.642	-7.710	1.748	6	5	7	5	5	114.551	1.803	1.142	0.661	21.197	0.956	14.076	13.462	8.837	8.452	30.606	1.838	34.929	-0.025	-0.026	31.396	3.542	32.396	2.445	28.288	36.060	34.397	-0.130	3.659	134.447	0.000	0.000	0.000	3.365	33.654	33.654
239	9.250	30.347	-9.250	-30.347	34.799	0.620	6.190	1.782	6	5	7	5	5	114.551	1.813	1.146	0.667	21.361	0.955	13.335	12.729	8.471	8.086	28.796	1.880	32.987	-0.014	-0.014	29.209	3.315	30.209	2.470	29.372	34.456	34.130	-0.125	3.750	130.537	0.000	0.000	0.000	3.182	31.823	31.823
240	9.300	30.511	-9.300	-30.511	37.694	0.653	27.880	1.732	6	5	8	6	5	114.551	1.822	1.150	0.672	21.525	0.953	14.444	13.763	9.026	8.600	31.199	1.820	35.873	0.005	0.006	31.026	3.528	32.026	2.435	27.857	36.694	34.503	-0.128	3.625	136.706	0.000	0.000	0.000	3.441	34.407	34.407
241	9.350	30.675	-9.350	-30.675	34.338	0.672	15.650	1.957	6	4	7	5	4	114.551	1.831	1.155	0.677	21.689	0.951	13.158	12.514	8.483	8.067	28.167	2.067	32.507	-0.005	-0.006	28.330	3.243	29.330	2.501	30.743	33.968	34.049	-0.131	3.779	129.823	0.000	0.000	0.000	3.129	31.285	31.285
242	9.400	30.840	-9.400	-30.840	25.827	0.812	15.460	3.144	5	4	7	5	3	114.551	1.841	1.159	0.682	21.853	0.949	12.371	11.744	7.337	6.140	20.707	3.385	23.986	-0.008	-0.008	20.879	2.428	21.879	2.775	44.562	0.000	32.679	-0.155	0.000	0.000	0.000	0.000	0.000	2.349	23.487	20.707
243	9.450	31.004	-9.450	-31.004	22.856	0.895	26.600	3.916	4	3	7	5	3	114.551	1.850	1.163	0.687	22.018	0.948	14.597	13.832	6.906	5.699	18.068	4.261	21.007	0.006	0.007	17.945	2.110	18.945	2.884	51.013	0.000	0.000	0.000	0.000	1.401	0.018	6.050	2.075	20.747	18.068
244	9.500	31.168	-9.500	-31.168	21.721	1.120	12.980	5.156	3	3	7	5	3	111.369	1.859	1.167	0.692	22.182	0.946	20.809	19.682	6.964	5.697	17.023	5.639	19.862	-0.013	-0.014	17.269	2.042	18.269	2.983	57.349	0.000	0.000	0.000	0.000	1.325	0.000	5.519	1.968	19.682	17.023
245	9.550	31.332	-9.550	-31.332	18.166	1.111	7.400	6.116	3	3	6	4	3	111.369	1.869	1.171	0.697	22.346	0.944	17.403	16.433	6.292	5.033	13.921	6.817	16.298	-0.026	-0.029	14.319	1.718	15.319	3.103	65.699	0.000	0.000	0.000	0.000	1.087	0.000	4.073	1.643	16.433	13.921
246	9.600	31.496	-9.600	-31.496	15.848	1.156	-1.940	7.294	3	3	6	4	2	111.369	1.878	1.175	0.702	22.510	0.943	15.182	14.311	5.911	4.630	11.892	8.274	13.971	-0.048	-0.055	12.541	1.524	13.541	3.210	73.785	0.000	0.000	0.000	0.000	0.932	0.000	3.235	1.431	14.311	11.892
247	9.650	31.660	-9.650	-31.660	22.524	1.064	3.920	4.724	3	3	7	5	3	111.369	1.887	1.179	0.708	22.674	0.941	21.578	20.306	7.070	5.736	17.508	5.155	20.638	-0.026	-0.028	18.004	2.146	19.004	2.948	55.065	0.000	0.000	0.000	0.000	1.376	0.000	5.763	2.031	20.306	17.508
248	9.700	31.824	-9.700	-31.824	22.398	1.217	20.580	5.433	3	3	7	5	3	111.369	1.896	1.183	0.713	22.838	0.939	21.458	20.158	7.221	5.834	17.334	5.936	20.503	-0.003	-0.003	17.393	2.084	18.393	2.992	57.943	0.000	0.000	0.000	0.000	1.367	0.000	5.675	2.016	20.158	17.334
249	9.750	31.988	-9.750	-31.988	20.830	1.278	6.340	6.136	3	3	7	5	3	111.369	1.905	1.187	0.718	23.002	0.938	19.955	18.714	6.996	5.590	15.946	6.753	18.925	-0.025	-0.027	16.384	1.977	17.384	3.056	62.362	0.000	0.000	0.000	0.000	1.262	0.000	4.995	1.871	18.714	15.946
250	9.800	32.152	-9.800	-32.152	22.148	1.519	2.830	6.859	3	3	7	5	3	111.369	1.914	1.191	0.723	23.167	0.936	21.217	19.865	7.491	5.999	16.991	7.507	20.234	-0.029	-0.031	17.524	2.113	18.524	3.067	63.125	0.000	0.000	0.000	0.000	1.350	0.000	5.504	1.986	19.865	16.991
251	9.850	32.316	-9.850	-32.316	28.338	1.695	4.530	5.981	3	3	7	5	3	111.369	1.923	1.195	0.728	23.331	0.935	27.148	25.374	8.836	7.195	22.108	6.417	26.416	-0.021	-0.022	22.598	2.701	23.598	2.937	54.357	0.000	0.000	0.000	0.000	1.762	0.000	8.293	2.537	25.374	22.108
252	9.900	32.480	-9.900	-32.480	34.976	1.721	-0.650	4.921	3	3	7	5	3	111.369	1.933	1.199	0.733	23.495	0.933	33.507	31.265	10.104	8.312	27.563	5.208	33.044	-0.022	-0.023	28.191	3.353	29.191	2.805	46.307	0.000	0.000	0.000	0.000	2.204	0.000	10.000	3.127	31.265	27.563
253	9.950	32.644	-9.950	-32.644	32.754	1.707	-7.370	5.212	3	3	7	5	3	111.369	1.942	1.203	0.738	23.659	0.932	31.378	29.230	9.687	7.908	25.616	5.540	30.813	-0.030	-0.031	26.421	3.160	27.421	2.847	48.753	0.000	0.000	0.000	0.000	2.055	0.000	10.000	2.923	29.230	25.616
254	10.000	32.808	-10.000	-32.808	29.800	1.904	-11.250	6.389	3	3	7	5	3	111.369	1.951	1.207	0.743	23.823	0.930	28.548	26.550	9.324	7.536	23.075	6.837	27.850	-0.037	-0.039	23.982	2.888	24.982	2.943	54.726	0.000	0.000	0.000	0.000	1.857	0.000	8.875	2.655	26.550	23.075
255	10.050	32.972	-10.050	-32.972	39.675	2.096	-3.960	5.283	3	3	8	5	3	111.369	1.960	1.211	0.749	23.987	0.928	38.009	35.290	11.346	9.297	31.147	5.557	37.716	-0.022	-0.023	31.867	3.813	32.867	2.787	45.250	0.000	0.000	0.000	0.000	2.515	0.000	10.000	3.529	35.290	31.147
256	10.100	33.136	-10.100	-33.136	40.738	2.267	-5.200	5.565	3	3	8	5	3	111.369	1.969	1.215	0.754	24.151	0.927	39.027	36.174	11.703	9.569	31.911	5.847	38.769	-0.022	-0.024	32.664	3.918	33.664	2.795	45.720	0.000	0.000	0.000	0.000	2.586	0.000	10.000	3.617	36.174	31.911
257	10.150	33.300	-10.150	-33.300	33.192	2.270	-9.300	6.839	3	3	7	5	3	111.369	1.978	1.219	0.759	24.315	0.925	31.798	29.425	10.303	8.297	25.608	7.272	31.215	-0.032	-0.034	26.468	3.208	27.468	2.930	53.878	0.000	0.000	0.000	0.000	2.082	0.000	10.000	2.943	29.425	25.608
258	10.200	33.464	-10.200	-33.464	26.907	2.056	-11.670	7.641	3	3	7	5	8	111.369	1.987	1.223	0.764	24.480	0.924	25.777	23.815	8.935	7.063	20.377	8.250	24.921	-0.042	-0.045	21.300	2.613	22.300	3.039	61.130	0.000	0.000	0.000	0.000	1.662	0.000	7.295	2.381	23.815	20.377
259	10.250	33.628	-10.250	-33.628	23.382	1.812	-12.460	7.749	3	3	7	5	2	111.369	1.997	1.227	0.769	24.644	0.922	22.400	20.661	8.057	6.269	17.430	8.473	21.387	-0.050	-0.054	18.374	2.277	19.374	3.095	65.139	0.000	0.000	0.000	0.000	1.426	0.000	5.723	2.066	20.661	17.430
260	10.300	33.792	-10.300	-33.792	35.972	1.911	-12.420	5.312	3	3	7	5	3	111.369	2.006	1.231	0.774	24.808	0.921	34.462	31.734	10.527	8.429	27.594	5.626	33.968	-0.032	-0.034	28.537	3.483	29.537	2.828	47.645	0.000	0.000	0.000	0.000	2.265	0.000	10.000	3.173	31.734	27.594
261	10.350	33.956	-10.350	-33.956	37.150	1.933	-12.800	5.203	3	3	7	5	3	111.369	2.015	1.236	0.779	24.972	0.919	35.590	32.720	10.772	8.611	28.450	5.501	35.136	-0.032	-0.034	29.405	3.597	30.405	2.812	46.690	0.000	0.000	0.000	0.000	2.343	0.000	10.000	3.272	32.720	28.450
262	10.400	34.120	-10.400	-34.120	28.864	1.895	-13.750	6.565	3	3	7	5	3	111.369	2.024	1.240	0.784	25.136	0.918	27.652	25.381	9.194	7.203	21.663	7.060	26.841	-0.042	-0.045	22.643	2.806	23.643	2.972	56.644	0.000	0.000	0.000	0.000	1.790	0.000	8.031	2.538	25.381	21.663
263	10.450	34.284	-10.450	-34.284	21.370	1.713	-14.450	8.016	0	3	6	4	8	118.624	2.033	1.244	0.790	25.300	0.916	20.472	18.758	7.612	5.783	15.553	8.859	19.337	-0.058	-0.064	16.550	2.090	17.550	3.144	68.754	0.000	0.000	0.000	0.000	1.290	0.000	4.810	1.876	18.758	15.553
264	10.500	34.448	-10.500	-34.448	19.268	1.696	-14.750	8.802	0	3	0	4	8	118.624	2.043	1.248	0.795	25.464	0.915	18.459	16.882	7.205	5.388	13.803	9.846	17.226	-0.065	-0.073	14.809	1.890	15.809	3.214	74.064	0.000	0.000	0.000	0.000	1.149	0.000	4.022	1.688	16.882	13.803
265	10.550	34.612	-10.550	-34.612	32.089	1.947	-14.540	6.067	3	3	7	5	3	111.369	2.053	1.253	0.800	25.629	0.913	30.741	28.067	9.872	7.703	23.987	6.482	30.038	-0.039	-0.042	24.988	3.118	25.988	2.915	52.926	0.000	0.000	0.000	0.000	2.003	0.000	9.438	2.807	28.067	23.987
266	10.600	34.776	-10.600	-34.776	54.977	2.369	-13.250	4.309	5	4	8	6	3	114.551	2.062	1.257	0.805	25.793	0.911	26.334	24.003	14.454	11.559	42.118	4.477	52.916	-0.022	-0.023	43.087	5.306	44.087	2.628	36.742	46.241	36.094	-0.335	3.114	171.281	0.000	0.000	0.000	4.801	48.007	42.118
267	10.650	34.941	-10.650	-34.941	57.338	2.988	-13.170	5.211	3	4	8	6	3	111.369	2.071	1.261	0.810	25.957	0.910	54.930	49.986	15.443	12.326	43.845	5.406	55.268	-0.021	-0.022	44.813	5.532	45.813	2.675	39.140	47.399	36.287	-0.446	3.052	175.080	0.000	0.000	0.000	4.999	49.986	43.845
268	10.700	35.105	-10.700	-35.105	52.247	3.256	-13.280	6.232	3	3	8	6	8	111.369	2.080	1.265	0.815	26.121	0.909	50.053	45.476	14.743	11.686	39.673	6.490	50.168	-0.024	-0.025	40.645	5.045	41.645	2.763	43.876	0.000	0.000	0.000	0.000	3.346	0.000	10.000	4.548	45.476	39.673
269	10.750	35.269	-10.750	-35.269	48.499	2.824	-13.020	5.823	3	3	8	5	3	111.369	2.089	1.269	0.820	26.285	0.907	46.462	42.146	13.712	10.797	36.585	6.085	46.410	-0.025	-0.026	37.552	4.685	38.552	2.766	44.077	0.000	0.000	0.000	0.000	3.095	0.000	10.000	4.215	42.146	36.585
270	10.800	35.433	-10.800	-35.433	48.697	2.381	-11.640	4.889	4	4	8	6	3	114.551	2.099	1.273	0.825	26.449	0.906	31.101	28.167	13.370	10.493	36.615	5.109	46.600	-0.024	-0.026	37.548	4.700	38.548	2.712	41.074	42.580	35.484	-0.373	3.322	161.858	0.000	0.000	0.000	4.225	42.250	36.615
271	10.850	35.597	-10.850	-35.597	37.923	2.558	-12.280	6.745	3	3	7	5	3	111.369	2.108	1.277	0.831	26.613	0.904	36.331	32.849	11.541	8.911	28.051	7.142	35.816	-0.032	-0.034	29.001	3.670	30.001	2.896	51.776	0.000	0.000	0.000	0.000	2.389	0.000	10.000	3.285	32.849	28.051
272	10.900	35.761	-10.900	-35.761	37.781	2.468	-12.710	6.532	3	3	7	5	3	111.369	2.117	1.281	0.836	26.778	0.903	36.194	32.674	11.447	8.806	27.844	6.920	35.665	-0.033	-0.035	28.806	3.657	29.806	2.889	51.307	0.000	0.000	0.000	0.000	2.379	0.000	10.000	3.267	32.674	27.844
273	10.950	35.925	-10.950	-35.925	34.190	2.507	-12.810	7.333	3	3	7	5	8	111.369	2.126	1.285	0.841	26.942	0.901	32.754	29.522	10.809	8.235	24.956	7.819	32.065	-0.036	-0.039	25.921	3.314	26.921	2.960	55.834	0.000	0.000	0.000	0.000	2.139	0.000	10.000	2.952	29.522	24.956
274	11.000	36.089	-11.000	-36.089	30.698	2.569	-13.140	8.369	0	3	7	5	8	118.624	2.136	1.290	0.846	27.106	0.900	29.409	26.463	10.200	7.685	22.156	8.994	28.563	-0.041	-0.044	23.130	2.980	24.130	3.040	61.197	0.000	0.000	0.000	0.000	1.905	0.000	8.322	2.646	26.463	22.156
275	11.050	36.253	-11.050	-36.253	37.349	2.362	-12.970	6.324	3	3	7	5	3	111.369	2.145	1.294	0.851	27.270	0.898	35.780	32.143	11.299	8.595	27.217	6.709	35.205	-0.034	-0.036	28.187	3.617	29.187	2.886	51.147	0.000	0.000	0.000	0.000	2.348	0.000	10.000	3.214	32.143	27.217
276	11.100	36.417	-11.100	-36.417	33.799	2.213	-12.960	6.548	3	3	7	5	3	111.369	2.154	1.298	0.856	27.434	0.897	32.380	29.042	10.510	7.917	24.390	6.993	31.646	-0.037	-0.040	25.361	3.277	26.361	2.933

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
125	3.550	11.647	-3.550	-11.647	66.012	0.379	-10.890	0.574	8	8	6	8	6	120.915	0.670	0.650	0.020	0.647	1.267	15.810	20.037	12.442	15.768	100.548	0.580	65.342	-0.005	-0.005	101.102	6.357	102.102	1.849	9.206	60.933	38.543	-0.140	2.337	154.356	0.000	0.000	0.000	8.015	80.149	80.149
126	3.600	11.811	-3.600	-11.811	58.980	0.368	-9.690	0.624	8	6	8	6	6	120.915	0.680	0.655	0.025	0.811	1.263	14.126	17.837	11.374	14.362	89.054	0.631	58.300	-0.006	-0.006	89.555	5.679	90.555	1.912	10.674	57.598	37.987	-0.137	2.462	145.239	0.000	0.000	0.000	7.135	71.347	71.347
127	3.650	11.975	-3.650	-11.975	48.922	0.459	-7.760	0.938	7	6	8	6	5	117.733	0.690	0.660	0.030	0.975	1.258	15.622	19.657	10.063	12.661	73.154	0.952	48.232	-0.006	-0.006	73.567	4.710	74.567	2.079	15.197	52.137	37.077	-0.154	2.703	132.269	0.000	0.000	0.000	5.897	58.970	58.970
128	3.700	12.139	-3.700	-12.139	48.681	0.782	-7.900	1.606	7	5	8	6	5	117.733	0.700	0.664	0.036	1.139	1.254	15.545	19.493	10.627	13.326	72.277	1.630	47.981	-0.006	-0.006	72.702	4.687	73.702	2.225	19.847	51.898	37.037	-0.205	2.714	132.179	0.000	0.000	0.000	5.848	58.479	58.479
129	3.750	12.303	-3.750	-12.303	45.687	1.038	2.680	2.272	6	5	8	6	5	114.551	0.709	0.669	0.041	1.303	1.250	17.507	21.881	10.511	13.137	67.306	2.308	44.978	0.001	0.001	67.241	4.369	68.241	2.347	24.286	49.983	36.718	-0.241	2.808	128.364	0.000	0.000	0.000	5.470	54.702	54.702
130	3.800	12.467	-3.800	-12.467	45.116	1.308	-7.010	2.899	6	5	8	6	4	114.551	0.719	0.673	0.046	1.467	1.246	17.289	21.539	10.751	13.393	66.016	2.946	44.398	-0.006	-0.006	66.409	4.343	67.409	2.424	27.412	49.532	36.643	-0.281	2.831	127.791	0.000	0.000	0.000	5.385	53.847	53.847
131	3.850	12.631	-3.850	-12.631	59.380	1.128	-9.670	1.900	7	5	8	6	5	117.733	0.728	0.677	0.051	1.632	1.242	18.962	23.546	12.888	16.003	86.642	1.923	58.652	-0.006	-0.006	87.163	5.717	88.163	2.211	19.373	57.312	37.939	-0.244	2.473	146.908	0.000	0.000	0.000	7.064	70.639	70.639
132	3.900	12.795	-3.900	-12.795	93.303	0.772	-10.770	0.827	8	6	9	6	6	120.915	0.738	0.682	0.056	1.796	1.238	22.346	27.654	17.441	21.584	135.804	0.834	92.565	-0.004	-0.004	136.380	8.971	137.380	1.827	8.698	70.167	40.082	-0.200	2.083	194.437	0.000	0.000	0.000	11.061	110.614	110.614
133	3.950	12.959	-3.950	-12.959	114.622	0.405	-10.840	0.353	9	6	9	6	6	124.097	0.748	0.687	0.061	1.960	1.233	21.962	27.080	19.449	23.982	165.869	0.356	113.875	-0.003	-0.004	166.451	11.013	167.451	1.545	3.489	75.962	41.048	-0.144	1.964	225.246	0.000	0.000	0.000	13.540	135.401	135.401
134	4.000	13.123	-4.000	-13.123	125.459	0.518	-9.830	0.413	9	6	9	7	6	124.097	0.758	0.692	0.066	2.124	1.229	24.038	29.532	21.309	26.179	180.310	0.415	124.701	-0.003	-0.003	180.849	12.048	181.849	1.548	3.534	78.446	41.462	-0.164	1.919	240.865	0.000	0.000	0.000	14.766	147.659	147.659
135	4.050	13.287	-4.050	-13.287	121.558	0.763	-3.590	0.628	9	6	9	7	6	124.097	0.768	0.697	0.071	2.288	1.224	23.290	28.509	21.475	26.287	173.387	0.632	120.790	-0.002	-0.002	173.650	11.656	174.650	1.665	5.482	77.437	41.294	-0.197	1.937	235.519	0.000	0.000	0.000	14.255	142.547	142.547
136	4.100	13.451	-4.100	-13.451	121.598	0.867	-3.490	0.713	9	6	9	6	6	124.097	0.779	0.702	0.077	2.452	1.220	23.298	28.416	21.746	26.523	172.180	0.718	120.820	-0.002	-0.002	172.445	11.660	173.445	1.701	6.135	77.343	41.278	-0.207	1.938	235.806	0.000	0.000	0.000	14.208	142.080	142.080
137	4.150	13.615	-4.150	-13.615	90.581	1.020	-3.100	1.126	8	6	9	6	5	120.915	0.789	0.707	0.082	2.616	1.215	21.694	26.367	17.580	21.367	127.071	1.136	89.792	-0.002	-0.002	127.323	8.687	128.323	1.929	11.097	68.801	39.854	-0.223	2.114	191.564	0.000	0.000	0.000	10.547	105.468	105.468
138	4.200	13.779	-4.200	-13.779	61.381	1.066	-4.620	1.737	7	5	8	6	5	117.733	0.798	0.712	0.087	2.781	1.211	19.601	23.745	13.163	15.946	85.173	1.760	60.583	-0.004	-0.004	85.497	5.894	86.497	2.182	18.411	57.553	37.980	-0.231	2.463	151.265	0.000	0.000	0.000	7.123	71.235	71.235
139	4.250	13.943	-4.250	-13.943	47.410	1.177	-6.470	2.483	6	5	8	6	4	114.551	0.808	0.716	0.092	2.945	1.208	18.167	21.940	11.034	13.325	65.114	2.526	46.602	-0.006	-0.006	65.524	4.561	66.524	2.372	25.296	50.061	36.731	-0.252	2.805	133.018	0.000	0.000	0.000	5.485	54.851	54.851
140	4.300	14.107	-4.300	-14.107	40.333	1.097	-4.280	2.720	6	5	8	6	4	114.551	0.817	0.720	0.097	3.109	1.204	15.456	18.610	9.738	11.725	54.885	2.776	39.516	-0.006	-0.006	55.206	3.877	56.206	2.453	28.610	45.343	35.945	-0.247	3.051	123.126	0.000	0.000	0.000	4.653	46.525	46.525
141	4.350	14.271	-4.350	-14.271	34.613	1.192	-1.080	3.444	5	4	7	6	4	114.551	0.827	0.725	0.102	3.273	1.201	16.580	19.904	8.854	10.629	46.651	3.528	33.787	-0.004	-0.004	46.838	3.319	47.838	2.573	34.062	40.874	35.200	-0.274	3.297	114.159	0.000	0.000	0.000	3.981	39.809	39.809
142	4.400	14.436	-4.400	-14.436	32.956	1.125	-0.620	3.414	5	4	7	6	4	114.551	0.836	0.729	0.107	3.437	1.197	15.786	18.896	8.490	10.162	44.089	3.502	32.120	-0.004	-0.004	44.263	3.159	45.263	2.587	34.748	39.384	34.951	-0.265	3.380	111.423	0.000	0.000	0.000	3.779	37.792	37.792
143	4.450	14.600	-4.450	-14.600	26.326	1.102	1.010	3.146	4	4	7	6	3	114.551	0.845	0.733	0.112	3.601	1.194	16.814	20.067	7.097	9.784	34.772	4.325	25.481	-0.003	-0.003	34.883	2.519	35.883	2.677	39.228	32.862	33.864	-0.287	3.738	98.458	0.000	0.000	0.000	3.010	30.101	34.772
144	4.500	14.764	-4.500	-14.764	19.760	0.828	-7.950	4.190	4	3	6	5	3	114.551	0.855	0.737	0.118	3.765	1.190	12.620	15.019	5.620	7.615	25.650	4.380	18.906	-0.019	-0.019	26.146	1.917	27.146	2.777	44.685	0.000	0.000	0.000	1.261	0.000	10.000	2.253	22.528	25.650
145	4.550	14.928	-4.550	-14.928	15.534	0.606	-7.300	3.901	4	3	6	5	3	114.551	0.864	0.742	0.123	3.929	1.187	11.921	11.773	4.590	6.103	19.789	4.131	14.671	-0.023	-0.024	20.262	1.510	21.262	2.845	48.651	0.000	0.000	0.000	0.978	0.000	6.968	1.766	17.659	19.789
146	4.600	15.092	-4.600	-15.092	14.182	0.376	-4.510	2.651	5	4	6	5	4	114.551	0.874	0.746	0.128	4.094	1.183	6.793	8.038	4.034	5.300	17.849	2.825	13.309	-0.019	-0.020	18.209	1.372	19.209	2.777	44.699	0.000	0.000	0.000	0.868	-0.114	0.000	0.000	1.608	16.075	17.849
147	4.650	15.256	-4.650	-15.256	13.172	0.452	0.300	3.432	4	3	6	5	3	114.551	0.883	0.750	0.133	4.258	1.180	8.412	9.925	3.963	5.146	16.388	3.678	12.289	-0.009	-0.010	16.552	1.261	17.552	2.877	50.558	0.000	0.000	0.000	0.820	0.000	5.207	1.489	14.888	16.388
148	4.700	15.420	-4.700	-15.420	12.739	0.396	7.770	3.109	4	3	6	5	3	114.551	0.892	0.754	0.138	4.422	1.176	8.136	9.571	3.808	4.902	15.708	3.343	11.846	0.008	0.009	15.569	1.197	16.569	2.866	49.887	0.000	0.000	0.000	0.790	0.013	4.882	1.436	14.357	15.708
149	4.750	15.584	-4.750	-15.584	13.749	0.350	31.910	2.546	5	4	5	5	4	114.551	0.902	0.759	0.143	4.586	1.173	6.586	7.726	3.930	5.054	16.939	2.724	12.848	0.062	0.066	15.815	1.222	16.815	2.786	45.197	0.000	0.000	0.000	0.000	-0.093	0.000	0.000	1.545	15.452	16.939
150	4.800	15.748	-4.800	-15.748	14.848	0.481	54.190	3.229	4	4	5	5	4	114.551	0.911	0.763	0.148	4.750	1.170	9.483	11.094	4.331	5.563	18.273	3.451	13.937	0.104	0.111	16.250	1.260	17.250	2.822	46.137	0.000	0.000	0.000	0.000	0.124	0.000	0.000	1.664	16.641	18.273
151	4.850	15.912	-4.850	-15.912	14.457	0.589	30.000	4.074	3	3	5	5	3	111.369	0.921	0.767	0.153	4.914	1.167	13.850	16.159	4.403	5.612	17.652	4.351	13.537	0.054	0.058	16.631	1.295	17.631	2.898	51.857	0.000	0.000	0.000	0.903	0.098	5.836	1.616	16.159	17.652
152	4.900	16.076	-4.900	-16.076	16.676	0.708	53.860	4.246	3	3	5	5	3	111.369	0.930	0.771	0.158	5.078	1.164	15.976	18.590	4.965	6.349	20.427	4.496	15.747	0.091	0.097	18.452	1.437	19.452	2.859	49.461	0.000	0.000	0.000	0.000	0.000	1.050	0.190	7.323	1.859	18.590	20.427
153	4.950	16.240	-4.950	-16.240	20.080	0.750	81.640	3.735	4	4	5	5	3	114.551	0.939	0.775	0.164	5.243	1.161	12.824	14.883	5.649	7.253	24.697	3.918	19.141	0.119	0.125	21.620	1.680	22.620	2.757	43.573	0.000	0.000	0.000	0.000	0.000	2.232	0.322	12.324	24.697
154	5.000	16.404	-5.000	-16.404	22.688	1.028	55.740	4.531	3	3	6	5	3	111.369	0.948	0.779	0.169	5.407	1.157	21.735	25.157	6.437	8.264	27.902	4.729	21.740	0.069	0.072	25.885	2.007	26.885	2.773	44.438	0.000	0.000	0.000	0.000	1.450	0.196	10.000	2.516	25.157	27.902
155	5.050	16.568	-5.050	-16.568	28.356	1.264	39.450	4.458	4	4	7	5	3	114.551	0.957	0.784	0.174	5.571	1.154	18.110	20.906	7.715	9.934	34.979	4.613	27.399	0.037	0.039	33.628	2.599	34.628	2.694	40.156	34.035	34.060	-0.305	3.675	104.247	0.000	0.000	0.000	3.136	31.359	34.979
156	5.100	16.732	-5.100	-16.732	34.000	1.711	44.780	5.032	3	4	7	6	3	111.369	0.967	0.788	0.179	5.735	1.151	32.572	37.501	9.155	11.791	41.949	5.180	33.033	0.036	0.037	40.401	3.123	41.401	2.675	39.123	39.162	34.914	-0.395	3.393	115.409	0.000	0.000	0.000	3.750	37.501	41.949
157	5.150	16.896	-5.150	-16.896	40.464	2.105	8.570	5.202	3	4	8	6	3	111.369	0.976	0.792	0.184	5.899	1.148	38.764	44.517	10.662	13.723	49.892	5.331	39.488	0.002	0.002	49.786	3.851	50.786	2.632	36.964	44.078	35.734	-0.457	3.122	126.387	0.000	0.000	0.000	4.452	44.517	49.892
158	5.200	17.060	-5.200	-17.060	44.647	2.181	-10.110	4.885	4	4	8	6	3	114.551	0.985	0.796	0.189	6.063	1.145	28.514	32.661	11.580	14.004	54.878	4.995	43.662	-0.011	-0.012	55.513	4.307	56.513	2.601	35.408	46.823	36.191	-0.435	2.975	132.885	0.000	0.000	0.000	4.899	48.992	51.726
159	5.250	17.224	-5.250	-17.224	47.672	2.683	-12.450	4.561	4	4	8	6	4	111.369	0.995	0.800	0.194	6.228	1.142	29.149	33.322	11.776	13.452	55.855	4.662	44.678	-0.013	-0.013	56.584	4.413	57.398	2.589	34.832	47.398	36.287	-0.400	2.946	134.594	0.000	0.000	0.000	4.998	49.983	49.983
160	5.300	17.388	-5.300	-17.388	42.206	2.041	-10.330	4.836	4	4	8	6	3	114.551	1.004	0.804	0.199	6.392	1.139	26.955	30.711	10.947	13.872	51.236	4.954	41.202	-0.012	-0.013	51.885	4.074	52.885	2.601	35.414	45.058	35.897	-0.417	3.072	129.704	0.000	0.000	0.000	4.607	46.066	51.236
161	5.350	17.552	-5.350	-17.552	43.919	1.905	3.010	4.338	4	4	8	6	3	114.551	1.013	0.809	0.205	6.556	1.136	28.049	31.873	11.312	12.853	53.072	4.440	42.906	-0.003	-0.003	53.209	4.198	54.209	2.587	34.730	46.123	36.075	-0.367	3.016	132.492	0.000	0.000	0.000	4.781	47.809	47.809
162	5.400	17.716	-5.400	-17.716	46.566	1.857	33.070	3.988	5	4	8	6	4	114.551	1.023	0.813	0.210	6.720	1.133	22.305	25.279	11.740	13.305	56.040	4.077	45.544	0.018	0.018	55.027	4.362	56.027	2.544	32.669	47.725	36.342	-0.340	2.931	136.564	0.000	0.000	0.000	5.056	50.558	50.558
163	5.450	17.880	-5.450	-17.880	49.377	1.950	36.420	3.949	5	4	8	6	4	114.551	1.032	0.817	0.215	6.884	1.130	23.652	26.735	12.327	13.934	59.175	4.033	48.346	0.019	0.019	58.047	4.621	59.047	2.523	31.738	49.330	36.609	-0.344	2.849	140.749	0.000	0.000	0.000	5.347	53.469	53.469
164	5.500	18.044	-5.500	-18.044	51.139	1.967	49.460	3.846	5	4	8	6	4	114.551	1.042	0.822	0.220	7.048	1.127	24.495	27.616	12.656	14.269	61.001	3.926	50.098	0.026	0.026	59.389	4.751	60.389	2.505	30.764	50.922	36.764	-0.338	2.802	144.411	0.000	0.000	0.000	5.523	55.232	55.232
165	5.550	18.208	-5.550	-18.208	49.400	2.141	11.180	4.334	5	4	8	6	3	114.551	1.051	0.826	0.225	7.212	1.124	23.663	26.608	12.519	14.078	58.567	4.428	48.349	0.003	0.003	58.417	4.699	59.417	2.554	33.168	49.194	36.586	-0.381	2.858	141.253	0.000	0.000	0.000	5.322	53.216	53.216
166	5.600	18.372	-5.600	-18.372	49.192	2.233	19.540	4.539	4	4	8	6	3	114.551	1.060	0.830	0.230	7.376	1.122	31.417	35.237	12.570	14.098	58.004	4.639	48.132	0.008	0.008	57.546	4.654	58.546	2.571	33.963	48.999	36.554	-0.401	2.869	141.199	0.000	0.000	0.000	5.286	52.855	52.855
167	5.650	18.537	-5.650	-18.537	52.037	2.346	47.610	4.508	4	4	8	6	3	114.551	1.070	0.834	0.235	7.541	1.119	33.234	37.179	13.178	14.742	61.106	4.603	50.968	0.024	0.025	59.607	4.843	60.607	2.553	33.098	50.537	36.810	-0.403	2.792	145.358	0.000	0.000	0.000	5.577	55.769	55.769
168	5.700	18.701	-5.700	-18.701	57.479	2.316	-0.220	4.029	5	4	8	6	4	114.551	1.079	0.839	0.240	7.705	1.116	27.532	30.722	14.108	15.743	67.274	4.106	56.400	-0.004	-0.004	67.569	5.507	68.569	2.488	30.140	53.315	37.273	-0.374	2.659	152.902	0.000	0.000	0.000	6.144	61.443	61.443
169	5.750	18.865	-5.750	-18.865	59.300	1.977	-1.630	3.279	6	5	8	6	5	114.551	1.089	0.843	0.245	7.889	1.113	32.107	35.718	14.266	16.679	70.725	3.239	59.212	-0.005	-0.005	70.621	5.782	71.621	2.409	31.317	56.097	37.400	-0.317	2.601	156.882	0.000	0.000	0.000	6.430	64.295	64.295
170	5.800	19.029	-5.800	-19.029	85.337	1.573	-3.630	1.843	7	5	9	6	5	117.733	1.098	0.847	0.251	8.033	1.110	27.251	30.252	17.867	19.834	99.452	1.867	84.240	-0.004	-0.004	99.881	8.186	100.881	2.124	16.536	64.495	39.137	-0.255	2.237	191.015	0.000	0.000	0.000	9.075	90.755	90.755
171	5.850	19.193	-5.850	-19.193	94.883	1.131	-10.790	1.192	8	6	9	6	5	120.915	1.108	0.852	0.256	8.197	1.107	22.724	25.157	18.642	20.638	110.103	1.206	93.775	-0.006	-0.006	110.798	9.122	111.798	1.961	11.923	67.455	39.630	-0.215	2.159	204.939	0.000	0.000	0.000	10.063	100.629	100.629
172	5.900	19.357	-5.900	-19.357	87.436	0.879	-11.870	1.005	8	6	9	6	5	120.915	1.118	0.857	0.261	8.361	1.104	20.941	23.118	17.052	18.824	100.780	1.018	86.319	-0.007	-0.007	101.517	8.412	102.517	1.942	11.419	65.032	39.226	-0.191	2.224	194.535	0.000	0.000	0.000	9.247	92.472	92.472
173	5.950	19.521	-5.950	-19.521	64.111	1.251	-10.980	1.951	7	5	8	6	5	117.733	1.128	0.862	0.266	8.525	1.101	20.473	22.540	14.052	15.471	73.138	1.986	62.984	-0.009	-0.010	73.845	6.175	74.845	2.235	20.177	56.060	37.731	-0.231	2.541	163.002	0.000	0.000	0.000	6.762	67.620	67.620
174	6.000	19.685	-6.000	-19.685	55.368	1.923	-6.670	3.473	5	5	8	6	4	114.551	1.137	0.866	0.271	8.689	1.098	28.521	29.125	13.396	14.711	64.654	3.546	54.232	-0.009	-0.009	63.208	5.324	64.208	2.457	28.008	51.785	37.018	-0.317	2.738	151.648	0.000	0.000	0.000	5.825	58.250	58.250
175	6.050	19.849	-6.050	-19.849	56.296	2.241	9.040	3.981	5	4	8	6	4	114.551	1.146	0.870	0.276	8.854	1.095	26.966	29.540	13.872	15.196	63.402	4.063	55.150	0.000	0.000	63.395	5.366	64.395	2.496	30.504	52.191	37.086	-0.360	2.719	153.139	0.000	0.000	0.000	5.908	59.080	59.080
176	6.100	20.013	-6.100	-20.013	56.388	2.689	33.360	4.769	4	4	8	6	4	114.551	1.156	0.874	0.281	9.018	1.093	36.013	39.354	14.291	15.616	63.187	4.868	55.233	0.013	0.014	62.317	5.302	63.317	2.554	33.170	52.167	37.082	-0.441	2.721	153.505	0.000	0.000	0.000	5.903	59.032	59.032
177	6.150	20.177	-6.150	-20.177	60.707	2.990	10.720	4.925	11	4	8	6	8	130.461	1.166	0.879	0.287	9.182	1.090	58.157	63.374	15.308	16.682	67.734	5.022	59.541	0.001	0.001	67.679	5.784	68.679	2.544	32.691	54.202	37.421	-0.476	2.627	159.546	0.000	0.000	0.000	6.337	63.374	63.374
178	6.200	20.341	-6.200	-20.341	64.928	3.094	52.580	4.765	11	4	8	6	8	130.461	1.177	0.885	0.292	9.346	1.086	62.201	67.567	16.142	17.534	72.066	4.853	63.752	0.021	0.021	70.541	6.063	71.541	2.515	31.342	56.038	37.727	-0.462	2.547	165.462	0.000	0.000	0.000	6.757	67.567	67.567
179	6.250	20.505	-6.250	-20.505	73.497	3.066	4.350	4.172	5	4	8	6	4	114.551	1.187	0.890	0.297	9.510	1.083	35.205	38.136	17.607	19.073	81.289	4.240	72.312	-0.002	-0.002	81.470	7.028	82.470	2.436	27.897	59.512	38.306	-0.416	2.410	177.181	0.000	0.000	0.000	7.627	76.272	76.272
180	6.300	20.669	-6.300	-20.669	91.787	2.495	2.750	2.718	6	5	9	6	4	114.551	1.196	0.894	0.302	9.674	1.081	35.173	38.010	20.096	21.717	101.352	2.754	90.592	-0.002	-0.002	101.594	8.785	102.594	2.232	20.087	65.813	39.356	-0.320	2.210	202.896	0.000	0.000	0.000	9.502	95.025	95.025
181	6.350	20.833	-6.350	-20.833	115.257	2.599	-6.810	2.255	7	5	9	6	5	117.733	1.206	0.899	0.307	9.838	1.078	36.806	39.677	23.955	25.824	126.974	2.279	114.052	-0.005	-0.005	127.552	11.062	128.552	2.106	15.978	72.269	40.432	-0.311	2.058	237.273	0.000	0.000	0.000	11.903	119.030	119.030
182	6.400	20.997	-6.400	-20.997	106.094	2.546	-12.120	2.400	7	5	9	6	5	117.733	1.215	0.903	0.312	10.003	1.075	33.879	36.430	22.457	24.148	116.175	2.428	104.880	-0.007	-0.007	116.940	10.200	117.940	2.151	17.383	69.822	40.024	-0.312	2.112	224.186	0.000	0.000	0.000	10.929	109.291	109.291
183	6.450	21.161	-6.450	-21.161	88.813	2.625	-9.210	2.956	7	5	9	6	5	117.733	1.225	0.908	0.317	10.167	1.072	34.003	36.507	19.771	21.208	96.550	2.997	87.588	-0.007	-0.007	97.217	8.536	98.217	2.221	21.466	64.656	39.163	-0.332	2.244	199.415	0.000	0.000	0.000	9.127	91.266	91.266
184	6.500	21.325	-6.500	-21.325	93.911	2.763	-6.260	2.942	6	5	9	6	4	114.551	1.234	0.912	0.322	10.331	1.070	35.987	38.512	20.754	22.210	101.681	2.981	92.677	-0.006	-0.006	102.249	9.015	103.249	2.254	20.856	66.189	39.419	-0.338	2.203	206.958	0.000	0.000	0.000	9.628	96.279	96.279
185	6.550	21.489	-6.550	-21.489	111.258	2.089	-8.340	1.878	7	5	9	6	5	117.733	1.244	0.916	0.328	10.495	1.068	35.528	37.930	22.711	24.246	120.122	1.899	110.015	-0.005	-0.005	120.764	10.683	121.764	2.060	14.635	70.978	40.217	-0.277	2.089	232.481	0.000	0.000	0.000	11.379	113.789	113.789
186	6.600	21.653	-6.600	-21.653

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
249	9.750	31.988	-9.750	-31.988	57.830	2.884	-6.330	4.987	4	4	8	6	3	114.551	1.852	1.196	0.655	21.000	0.934	36.934	34.508	15.299	12.927	46.813	5.152	55.980	-0.015	-0.015	47.526	5.569	48.526	2.640	37.359	48.400	36.454	-0.424	2.984	172.630	0.000	0.000	0.000	5.176	51.762	46.813
250	9.800	32.152	-9.800	-32.152	55.708	2.912	-9.950	5.227	3	4	8	6	3	111.369	1.861	1.200	0.660	21.164	0.933	53.368	49.775	14.951	12.571	44.875	5.408	53.848	-0.017	-0.018	45.683	5.367	46.683	2.668	38.788	47.278	36.267	-0.450	3.045	169.685	0.000	0.000	0.000	4.978	49.775	44.875
251	9.850	32.316	-9.850	-32.316	45.177	3.002	-13.300	6.645	3	3	8	5	8	111.369	1.870	1.204	0.666	21.328	0.931	43.280	40.299	13.104	10.891	35.971	6.932	43.308	-0.024	-0.025	36.868	4.368	37.868	2.813	46.724	0.000	0.000	0.000	0.000	2.888	0.000	0.000	10.000	4.030	40.299	35.971
252	9.900	32.480	-9.900	-32.480	35.849	2.888	-14.600	8.056	0	3	7	5	8	118.624	1.879	1.209	0.671	21.492	0.929	34.343	31.921	11.267	9.224	28.114	8.502	33.970	-0.031	-0.033	29.046	3.478	30.046	2.950	55.207	0.000	0.000	0.000	0.000	2.266	0.000	10.000	3.192	31.921	28.114
253	9.950	32.644	-9.950	-32.644	44.686	2.132	-3.900	4.771	4	4	8	6	3	114.551	1.889	1.213	0.676	21.656	0.928	28.539	26.478	12.291	10.132	35.290	4.982	42.797	-0.018	-0.019	35.948	4.293	36.948	2.715	41.261	40.807	35.189	-0.351	3.408	152.354	0.000	0.000	0.000	3.972	39.716	35.290
254	10.000	32.808	-10.000	-32.808	39.185	2.241	-12.090	5.719	3	3	8	5	3	111.369	1.898	1.217	0.681	21.821	0.926	37.539	34.768	11.388	9.296	30.642	6.010	37.287	-0.027	-0.028	31.511	3.790	32.511	2.816	46.930	0.000	0.000	0.000	0.000	2.487	0.000	10.000	3.477	34.768	30.642
255	10.050	32.972	-10.050	-32.972	45.294	2.400	-5.720	5.299	3	3	8	6	3	111.369	1.907	1.221	0.686	21.985	0.925	43.392	40.123	12.661	10.369	35.538	5.532	43.388	-0.019	-0.020	36.246	4.356	37.246	2.745	42.906	0.000	0.000	0.000	0.000	2.894	0.000	10.000	4.012	40.123	35.538
256	10.100	33.136	-10.100	-33.136	42.795	2.622	-10.350	6.127	3	3	8	5	3	111.369	1.917	1.225	0.691	22.149	0.923	40.998	37.847	12.398	10.092	33.374	6.414	40.880	-0.024	-0.025	34.202	4.131	35.202	2.810	46.597	0.000	0.000	0.000	0.000	2.726	0.000	10.000	3.785	37.847	33.374
257	10.150	33.300	-10.150	-33.300	59.531	2.562	-9.450	4.304	5	4	8	6	3	114.551	1.926	1.230	0.696	22.313	0.922	28.515	26.279	15.124	13.938	46.871	4.447	57.606	-0.017	-0.017	47.677	5.731	48.677	2.559	33.406	48.838	36.527	-0.349	2.968	176.781	0.000	0.000	0.000	5.256	52.558	52.558
258	10.200	33.464	-10.200	-33.464	70.225	3.136	-8.860	4.466	5	4	8	6	3	114.551	1.935	1.234	0.701	22.477	0.920	33.638	30.946	17.518	16.116	55.371	4.592	68.290	-0.014	-0.014	56.164	6.754	57.164	2.522	31.662	53.523	37.308	-0.391	2.735	192.129	0.000	0.000	0.000	6.189	61.892	61.892
259	10.250	33.628	-10.250	-33.628	85.718	4.331	-1.950	5.053	11	4	9	6	8	130.461	1.945	1.239	0.707	22.641	0.918	82.118	75.396	21.212	19.476	67.655	5.170	83.773	-0.009	-0.009	68.274	8.218	69.274	2.505	30.906	59.181	38.251	-0.499	2.493	213.812	0.000	0.000	0.000	7.540	75.396	75.396
260	10.300	33.792	-10.300	-33.792	95.346	4.848	2.580	5.085	11	9	9	6	8	130.461	1.956	1.244	0.712	22.805	0.916	91.342	83.677	0.000	0.000	75.084	5.191	93.391	-0.007	-0.007	75.591	9.126	76.591	2.478	0.000	62.167	38.749	-0.522	2.388	227.736	0.000	0.000	0.000	8.368	83.677	83.677
261	10.350	33.956	-10.350	-33.956	105.061	3.730	-1.430	3.550	6	5	9	6	4	114.551	1.966	1.249	0.717	22.970	0.914	40.259	36.808	24.000	21.943	82.559	3.618	103.096	-0.007	-0.007	83.169	10.069	84.169	2.331	23.669	64.892	39.203	-0.361	2.303	242.106	0.000	0.000	0.000	9.202	92.021	92.021
262	10.400	34.120	-10.400	-34.120	101.650	2.529	-9.690	2.488	7	5	9	6	5	117.733	1.976	1.254	0.722	23.134	0.913	32.460	29.625	22.194	20.256	79.539	2.537	99.675	-0.010	-0.010	80.356	9.767	81.356	2.225	19.859	63.895	39.037	-0.276	2.334	237.361	0.000	0.000	0.000	8.888	88.876	88.876
263	10.450	34.284	-10.450	-34.284	68.022	1.829	-10.910	2.689	6	5	8	6	4	114.551	1.985	1.258	0.727	23.298	0.911	26.066	23.748	15.851	14.442	52.512	2.770	66.038	-0.016	-0.016	53.361	6.549	54.361	2.375	25.411	52.331	37.109	-0.242	2.797	190.354	0.000	0.000	0.000	5.937	59.370	59.370
264	10.500	34.448	-10.500	-34.448	53.435	2.119	-8.760	3.966	5	4	8	6	3	114.551	1.995	1.262	0.732	23.462	0.910	25.596	23.280	13.939	11.100	40.767	4.119	51.442	-0.019	-0.020	41.564	5.145	42.564	2.612	35.969	45.364	35.948	-0.299	3.164	169.128	0.000	0.000	0.000	4.656	46.560	40.767
265	10.550	34.612	-10.550	-34.612	76.718	2.494	52.590	3.251	6	4	8	6	4	114.551	2.004	1.267	0.737	23.626	0.908	29.398	26.694	18.059	16.397	59.012	3.338	74.715	0.012	0.012	58.297	7.192	59.297	2.397	26.308	55.682	37.668	-0.291	2.643	202.874	0.000	0.000	0.000	6.673	66.734	66.734
266	10.600	34.776	-10.600	-34.776	108.845	3.185	401.240	2.926	6	5	7	6	4	114.551	2.013	1.271	0.742	23.790	0.906	41.709	37.808	24.108	21.853	84.094	2.981	106.832	0.108	0.110	74.820	9.228	75.820	2.259	21.043	65.660	39.331	-0.298	2.286	248.881	0.000	0.000	0.000	9.452	94.520	94.520
267	10.650	34.941	-10.650	-34.941	162.357	2.958	366.390	1.822	8	5	8	6	5	120.915	2.023	1.275	0.748	23.954	0.905	38.885	35.185	32.234	29.167	125.761	1.845	160.335	0.066	0.067	117.377	14.458	118.377	1.989	12.644	77.071	41.233	-0.270	2.014	327.145	0.000	0.000	0.000	14.074	140.738	140.738
268	10.700	35.105	-10.700	-35.105	203.827	2.485	15.520	1.219	9	6	9	6	5	124.097	2.033	1.280	0.753	24.119	0.903	39.053	35.269	37.645	33.997	157.671	1.231	201.795	-0.001	-0.001	157.880	19.480	158.880	1.793	7.971	83.535	42.310	-0.252	1.931	393.761	0.000	0.000	0.000	17.635	176.346	176.346
269	10.750	35.269	-10.750	-35.269	232.884	3.361	7.040	1.443	8	6	9	7	5	120.915	2.043	1.285	0.758	24.283	0.901	55.776	50.275	43.266	38.999	179.675	1.456	230.842	-0.002	-0.002	180.093	22.289	181.093	1.809	8.324	87.300	42.937	-0.284	0.000	0.000	0.000	0.000	20.110	201.098	201.098
270	10.800	35.433	-10.800	-35.433	233.607	4.138	4.360	1.771	8	6	9	7	8	120.915	2.053	1.290	0.763	24.447	0.900	55.949	50.337	44.494	40.031	179.560	1.787	231.555	-0.003	-0.003	180.046	22.367	181.046	1.878	9.869	87.336	42.943	-0.311	0.000	0.000	0.000	0.000	20.135	201.348	201.348
271	10.850	35.597	-10.850	-35.597	289.119	4.193	14.290	1.450	9	6	10	7	8	124.097	2.063	1.295	0.768	24.611	0.898	55.395	49.744	52.639	47.269	221.752	1.461	287.057	-0.001	-0.001	222.000	27.655	223.000	1.752	7.137	93.392	43.953	-0.306	0.000	0.000	0.000	0.000	24.872	248.719	248.719
272	10.900	35.761	-10.900	-35.761	297.105	3.608	-7.160	1.214	9	6	10	7	8	124.097	2.073	1.300	0.773	24.775	0.896	56.925	51.018	52.845	47.362	227.026	1.223	295.033	-0.003	-0.003	227.793	28.484	228.793	1.685	5.842	94.117	44.074	-0.287	0.000	0.000	0.000	0.000	25.509	255.091	255.091
273	10.950	35.925	-10.950	-35.925	322.647	2.065	-6.960	0.640	10	6	10	7	8	127.279	2.084	1.305	0.778	24.939	0.894	51.516	46.078	53.184	47.570	245.691	0.644	320.564	-0.003	-0.003	246.454	30.930	247.454	1.455	2.217	0.000	44.458	-0.230	0.000	0.000	0.000	0.000	27.647	276.469	276.469
274	11.000	36.089	-11.000	-36.089	316.601	2.352	-4.620	0.743	9	6	10	7	8	124.097	2.094	1.310	0.783	25.103	0.893	50.661	54.150	53.078	47.381	240.095	0.748	314.508	-0.003	-0.003	240.803	30.344	241.803	1.508	3.944	92.000	44.358	-0.242	0.000	0.000	0.000	0.000	27.075	270.752	270.752
275	11.050	36.253	-11.050	-36.253	288.873	2.513	0.560	0.870	9	6	10	7	7	124.097	2.104	1.316	0.789	25.267	0.891	55.348	49.313	49.683	44.265	218.078	0.876	286.770	-0.003	-0.003	218.664	27.672	219.664	1.586	4.128	93.143	43.911	-0.248	0.000	0.000	0.000	0.000	24.656	246.564	246.564
276	11.100	36.417	-11.100	-36.417	271.937	3.214	25.200	1.182	9	6	10	7	7	124.097	2.114	1.321	0.794	25.432	0.889	52.103	46.333	48.669	43.279	204.405	1.191	269.824	-0.000	-0.000	204.410	25.976	205.410	1.703	6.177	91.356	43.613	-0.274	0.000	0.000	0.000	0.000	23.166	231.663	231.663
277	11.150	36.581	-11.150	-36.581	228.193	2.962	21.350	1.298	9	6	9	6	5	124.097	2.124	1.326	0.799	25.596	0.888	43.722	38.805	42.026	37.300	170.605	1.310	226.070	-0.001	-0.001	170.705	21.797	171.705	1.785	7.803	86.274	42.766	-0.267	2.018	460.631	0.000	0.000	0.000	19.403	194.026	194.026
278	11.200	36.745	-11.200	-36.745	183.805	2.945	18.470	1.602	8	6	9	6	5	120.915	2.134	1.331	0.804	25.760	0.886	44.021	38.999	35.517	31.465	136.592	1.621	181.672	-0.001	-0.001	136.763	17.553	137.763	1.917	10.206	80.021	41.724	-0.270	1.962	360.833	0.000	0.000	0.000	15.599	155.995	155.995
279	11.250	36.909	-11.250	-36.909	229.067	2.672	29.930	1.166	9	6	9	6	5	124.097	2.145	1.336	0.809	25.924	0.884	43.889	43.889	38.810	41.676	36.852	169.985	1.177	226.923	0.001	0.001	169.891	21.855	170.891	1.750	7.095	86.278	42.767	-0.254	2.019	462.618	0.000	0.000	0.000	19.405	194.049	194.049
280	11.300	37.073	-11.300	-37.073	277.732	2.776	24.270	1.000	9	6	10	7	7	124.097	2.155	1.341	0.814	26.088	0.883	53.213	46.966	48.720	43.000	205.653	1.007	275.578	-0.000	-0.000	205.695	26.534	206.695	1.645	5.114	91.745	43.678	-0.256	0.000	0.000	0.000	0.000	23.483	234.830	234.830
281	11.350	37.237	-11.350	-37.237	308.548	2.583	28.470	0.837	9	6	10	7	7	124.097	2.165	1.346	0.819	26.252	0.881	59.118	52.079	52.571	46.312	227.782	0.843	306.384	0.000	0.000	227.731	29.474	228.731	1.557	3.681	94.707	44.172	-0.248	0.000	0.000	0.000	0.000	26.039	260.395	260.395
282	11.400	37.401	-11.400	-37.401	333.999	2.207	6.200	0.661	10	6	10	7	7	127.279	2.175	1.351	0.824	26.416	0.879	53.328	46.889	55.135	48.477	245.748	0.665	331.824	-0.002	-0.002	246.215	31.979	247.215	1.459	2.278	0.000	44.541	-0.233	0.000	0.000	0.000	0.000	28.133	281.332	281.332
283	11.450	37.565	-11.450	-37.565	330.071	2.604	4.910	0.744	10	6	10	7	7	127.279	2.186	1.356	0.829	26.581	0.878	55.895	49.048	56.230	51.097	256.633	0.749	347.884	-0.002	-0.002	257.131	33.522	258.131	1.443	2.601	0.000	44.757	-0.248	0.000	0.000	0.000	0.000	29.429	294.290	294.290
284	11.500	37.729	-11.500	-37.729	281.000	3.150	6.430	1.121	9	6	10	7	7	124.097	2.196	1.361	0.835	26.745	0.876	53.840	47.155	49.905	43.709	204.888	1.130	278.805	-0.002	-0.002	205.354	26.901	206.354	1.681	5.761	91.860	43.697	-0.268	0.000	0.000	0.000	0.000	23.577	235.775	235.775
285	11.550	37.893	-11.550	-37.893	249.118	3.153	4.450	1.266	9	6	10	7	7	124.097	2.206	1.366	0.840	26.909	0.874	47.731	41.727	45.409	39.697	180.779	1.277	246.913	-0.003	-0.003	181.292	23.852	182.292	1.756	7.203	88.355	43.113	-0.270	0.000	0.000	0.000	0.000	20.864	208.636	208.636
286	11.600	38.057	-11.600	-38.057	271.507	3.019	28.360	1.112	9	6	10	7	7	124.097	2.216	1.371	0.845	27.073	0.873	52.021	45.394	48.357	42.196	196.437	1.121	269.292	0.000	0.000	196.407	25.926	197.407	1.689	5.914	90.769	43.516	-0.263	0.000	0.000	0.000	0.000	22.697	226.968	226.968
287	11.650	38.221	-11.650	-38.221	284.923	3.403	8.550	1.194	9	6	10	7	7	124.097	2.226	1.377	0.850	27.237	0.871	54.591	47.549	50.927	44.357	205.458	1.204	282.698	-0.002	-0.002	205.882	27.270	206.882	1.699	6.106	92.099	43.737	-0.275	0.000	0.000	0.000	0.000	23.774	237.745	237.745
288	11.700	38.385	-11.700	-38.385	314.114	3.292	3.790	1.045	9	6	10	7	7	124.097	2.237	1.382	0.855	27.402	0.869	60.184	52.324	54.795	47.639	225.835	1.002	312.081	-0.002	-0.002	226.369	30.081	227.369	1.624	3.606	94.842	44.194	-0.270	0.000	0.000	0.000	0.000	26.162	261.621	261.621
289	11.750	38.549	-11.750	-38.549	344.943	2.732	2.130	0.792	9	6	10	7	7	124.097	2.247	1.387	0.860	27.565	0.868	66.091	57.355	57.893	50.241	247.247	0.797	342.697	-0.002	-0.002	247.819	33.039	248.819	1.511	2.993	0.000	44.633	-0.251	0.000	0.000	0.000	0.000	28.677	286.774	286.774
290	11.800	38.713	-11.800	-38.713	343.412	2.530	3.600	0.737	10	6	10	7	7	127.279	2.257	1.392	0.865	27.730	0.866	54.832	47.495	57.242	49.583	245.217	0.742	341.156	-0.002	-0.002	245.758	32.888	246.758	1.490	2.691	0.000	44.603	-0.243	0.000	0.000	0.000	0.000	28.497	284.969	284.969
291	11.850	38.877	-11.850	-38.877	316.721	2.626	1.770	0.829	9	6	10	7	7	124.097	2.267	1.397	0.870	27.894	0.865	60.684	52.466	53.871	46.576	225.185	0.835	314.455	-0.003	-0.003	225.768	30.337	226.768	1.552	3.601	94.919	44.207	-0.246	0.000	0.000	0.000	0.000	26.233	262.331	262.331
292	11.900	39.042	-11.900	-39.042	302.877	2.514	2.780	0.830	9	6	10	7	7	124.097	2.278	1.402	0.876	28.058	0.863	58.031	50.082	51.758	44.668	214.487	0.836	300.601	-0.003	-0.003	215.050	29.007	216.050	1.566	3.820	93.587	43.985	-0.242	0.000	0.000	0.000	0.000	25.041	250.412	250.412
293	11.950	39.206	-11.950	-39.206	332.576	2.031	10.650	0.611	10	6	10	7	7	127.279	2.288	1.407	0.881	28.221	0.861	53.101	46.743	54.613	47.045	234.802	0.615	330.292	-0.002	-0.002	235.191	31.829	236.191	1.423	2.222	0.000	44.423	-0.222	0.000	0.000	0.000	0.000	27.446	274.459	274.459
294	12.000	39.370	-12.000	-39.370	341.731	2.009	17.770	0.588	10	6	10	7	7	127.279	2.298	1.413	0.886	28.386	0.860	54.563	46.914	55.773	47.954	240.393	0.592	339.433	-0.001	-0.001	240.627	32.685	241.627	1.423	1.812	0.000	44.544	-0.220	0.000	0.000	0.000	0.000	28.148	281.482	281.482
295	12.050	39.534	-12.050	-39.534	320.805	1.954	11.980	0.609	10	6	10	7	7	127.279	2.309	1.418	0.891	28.550	0.858	51.222	43.958	52.876	45.378	224.719	0.614	318.497	-0.002	-0.002	225.084	30.697	226.084	1.455	2.214	0.000	44.233	-0.217	0.000	0.000	0.000	0.000	26.375	263.749	263.749
296	12.100	39.698	-12.100	-39.698	312.665	1.886	16.760	0.603	10	6	10	7	7	127.279	2.319	1.423	0.896	28.714	0.857	49.922	42.763	51.630	44.226	218.150	0.608	310.346	-0.001	-0.001	218.412	29.903	219.412	1.460	2.292	94.284	44.101	-0.214	0.000	0.000	0.000	0.000	25.658	256.576	256.576
297	12.150	39.862	-12.150	-39.862	277.252	1.883	21.130	0.679	9	6	10	7	7	124.097	2.330	1.428	0.901	28.879	0.855	53.121	45.420	46.891	40.093	192.548	0.685	274.923	-0.001	-0.001	192.717	26.498	193.717	1.535	3.339	90.786	43.518	-0.213	0.000	0.000	0.000	0.000	22.710	227.102	227.102
298	12.200	40.026	-12.200	-40.026	243.015	1.725	24.900	0.710	9	6	9	6	5	124.097	2.340	1.433	0.906	29.043	0.854	46.562	39.741	41.863	35.731	167.084	0.717	240.607	-0.001	-0.001	168.057	23.206	169.057	1.640	4.396	86.382	43.280	-0.205	0.274	504.239	0.000	0.000	0.000	19.871	198.707	198.707
299	12.250	40.190	-12.250	-40.190	212.345	1.414	18.430	0.666	9	6	9	6	6	124.097	2.350	1.439	0.911	29.207	0.852	40.685	34.665	36.905	31.444	146.040	0.673	209.996	-0.002	-0.002	146.274	20.288	147.274	1.617	4.643	83.040	42.227	-0.187	1.944	413.008	0.000	0.000	0.000	17.332	173.323	173.323
300	12.300	40.354	-12.300	-40.354	199.831	1.152	27.440	0.576	9	6	9	6	6	124.097	2.360	1.444	0.917	29.371	0.851	38.288	32.565	34.517	29.358	136.849	0.583	197.472	-0.000	-0.000	136.891	19.062	137.891	1.599	4.338	81.249	41.929	-0.168	1.957	391.198	0.000	0.000	0.000	16.282	162.823	162.823
301	12.350	40.518	-12.350	-40.518	178.620	1.182	30.370	0.662	9	6	9	6	6	124.097	2.370	1.449	0.922	29.535	0.849	34.224	29.057	31.659	26.880	121.716	0.671	176.250	0.000	0.000	121.697	17.021	122.697	1.675	5.655	77.982	41.384	-0.170	2.018	360.690	0.000	0.000	0.000	14.528	145.285	145.285
302	12.400	40.682	-12.400	-40.682	170.826	2.022	33.000	1.184	9	6	9	6	5	124.097	2.381	1.454	0.927	29.699	0.848	32.730	27.741	32.297	27.374	115.922	1.200	168.446	0.001	0.001	115.850	16.266	116.850	1.858	9.401	76.653	41.163	-0.219	2.049	350.228	0.000	0.000	0.000	13.870	138.704	138.704
303	12.450	40.846	-12.450	-40.846	195.088	2.745	38.200	1.407	8	6	9	6	5	120.915	2.391	1.459	0.932	29.863	0.846	46.724	39.534	37.068	31.364	132.164	1.425	192.699	0.001	0.001	131.985	18.575	132.985	1.871	9.716	80.411	41.789	-0.251	1.971	384.700	0.000	0.000	0.000	15.814	158.136	158.136
304	12.500	41.010	-12.500	-41.010	235.027	3.617	55.570	1.539	8	6	9	6	5	120.915	2.400	1.463	0.937	30.027	0.845	56.289	47.549	44.258	37.386	159.026	1.555	232.627	0.003	0.003	158.480	22.349	159.480	1.847	9.151	85.703	42.671	-0.279	1.999	469.996	0.000	0.000	0.000	19.020	190.197	190.197
305	12.550	41.174	-12.550	-41.174	243.774	5.577	154.470	2.288	7	5	9	6	8	117.733	2.410	1.468	0.942	30.192	0.843	77.845	65.654	48.098	40.566	164.474	2.311	241.365	0.016	0.016	161.830	22.892	162.830	1.972	12.213	86.705	42.838	-0.340	2.057	501.734	0.000	0.000	0.000	19.696	196.962	196.962
306	12.600	41.338	-12.600	-41.338	307.306	7.217	270.070	2.348	7	5	9	7	8	117.733	2.420	1.473	0.947	30.356	0.842	98.133	82.637	59.519	50.121	207.120	2.367	304.887	0.024	0.025	202.037	28.632	203.037	1.923	10.959	93.299	43.937	-0.370	0.000	0.000	0.000	0.000	24.791	247.911	247.911
307	12.650	41.502	-12.650	-41.502	319.876	8.547	42.660	2.672	12	8	10	7	8	120.915	2.430	1.477	0.952	30.520	0.841	153.221	128.822	0.000	0.000	214.972	2.692	317.448	0.001	0.001	214.715	30.517	215.715	1.961	0.000	94.403	44.121	-0.405	0.000	0.000	0.000	0.000	25.764	257.644	257.644
308	12.700	41.666	-12.700	-41.666	312.863	8.373	69.400	2.676	12	8	10	7	8	120.915	2.440	1.482	0.958	30.684	0.839	149.861	125.793	0.000	0.000	209.535	2.697	310.425	0.004	0.004	208.719	29.765	209.719	1.967	0.000	93.721	44.008	-0.402	0.000	0.000	0.000	0.000	25.159	251.587	251.587
309	12.750	41.830	-12.750	-41.830	323.937	7.965	13.940	2.459	7	8	10	7	8	117.733	2.449	1.487	0.963	30.848	0.838	103.444	86.694	0.000	0.000	216.322	2.478	321.489	-0.002	-0.002	216.677	30.991	217.677	1.928	0.000	94.673	44.166	-0.388	0.000	0.000	0.000	0.000	26.008	260.082	260.082
310	12.800	41.994	-12.800	-41.994	326.924	2.514	8.590	0.769	9	6	10	7	6	124.097	2.459	1.492	0.968	31.012	0.837	62.639	52.412	55.182	46.172

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	A	B	C	D	E	F	G	H	I	J
1		ConeTec CPT Interpretations								
2		Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011								
3		DAS Version: W47								
4		Interpretation Format:			All but Liquefaction Parameters (NLI)					
5		Run ID:			1347638871					
6		Job No:			12-972					
7		Client:			TertaTech					
8		Project:			Dump Road					
9		Facility:			Dump Road					
10		Sounding ID:			DR-CPT-08					
11		Cone ID:			167:T1500F15U500					
12		Operator:			TS-TW					
13		CPT Date:			Aug-30-2012					
14		CPT Time:			09:35					
15		CPT File:			972CP08.COR					
16										
17		Tip Units:			tsf					
18		Sleeve Units:			tsf					
19		PP Units:			ft					
20		Tip Conversion to bar:			0.9580					
21		Sleeve Conversion to bar:			0.9580					
22		PP Conversion to meters:			0.3050					
23										
24		Col 5 (Extra Module) Parameter			N/A					
25		Col 5 (Extra Module) Units			N/A					
26										
27		Coord Source:								
28		Coord Type:								
29		UTM Zone:			N/A					
30		Easting / Long:			76.409320					
31		Northing / Lat:			39.324800					
32		Elevation:			0.000					
33										
34		Tip Net Area Ratio:			0.80					
35		Unit Weight of Soil Base:			Basad on Soil Zones					
36		Unit Weight of Soil (Def):			18.64	kN/m^3	118.62	pcf		
37		Unit Weight of Water:			9.81	kN/m^3	62.43	pcf		
38		Equilibrium U Profile Used:			No					
39		Soil Unit Weight Profile Used:			No					
40		Water Table			3.35	m	11.00	ft		
41		Averaging Interval:			0.00	m	0.00	ft		
42										
43		Su Factors Nkt and Ndu:			15.0	8.0				
44		Cn Exp. and Limits:			0.50	0.00	1.70			
45		Qc1 Exp. and Limits:			0.50	0.00	1.70			
46		State Parameter M:			1.20					
47		NC Su / p':			0.30					
48		Relative Density Method:			All Sands - Jamiolokowski (1985)					
49		Phi Angle Method:			Kulhawy and Mayne (1990)					
50		Youngs Modulus Sand Type:			Recent					
51		N160lc Method:			Based on qc1n					
52										

	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
53	Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (lc)	N160 (lc)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
54	m	ft	m	ft	tsf	tsf	ft	%						pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa			%	%	deg			tsf	tsf	tsf		MPa		
55	0.050	0.164	-0.050	-0.164	9.604	0.088	2.170	0.916	5	0	5	0	0	114.551	0.009	0.009	0.000	0.000	1.700	4.600	7.820	0.000	0.000	1021.244	0.917	9.594	0.007	0.007	1014.034	0.914	1015.034	2.565	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.564	15.640	15.640
56	0.100	0.328	-0.100	-0.328	16.103	0.170	10.140	1.056	6	6	6	7	8	114.551	0.019	0.019	0.000	0.000	1.700	6.171	10.490	3.793	6.448	856.053	1.057	16.085	0.020	0.020	839.208	1.512	840.208	2.399	26.371	71.278	33.206	-0.395	0.000	0.000	0.000	0.000	0.000	2.623	26.226	26.226
57	0.150	0.492	-0.150	-0.492	28.202	0.280	5.120	0.993	7	6	7	7	8	117.733	0.028	0.028	0.000	0.000	1.700	9.006	15.310	6.041	10.269	995.036	0.994	28.174	0.006	0.006	989.392	2.686	990.392	2.180	18.315	81.463	35.883	-0.403	3.071	86.656	0.000	0.000	0.000	4.593	45.930	45.930
58	0.200	0.656	-0.200	-0.656	54.583	0.459	5.210	0.841	8	0	8	0	0	120.915	0.038	0.038	0.000	0.000	1.700	13.073	22.223	0.000	0.000	1431.604	0.842	54.544	0.003	0.003	1427.336	5.213	1428.336	1.904	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.889	88.893	88.893
59	0.250	0.820	-0.250	-0.820	82.444	0.594	2.280	0.720	8	0	9	0	0	120.915	0.048	0.048	0.000	0.000	1.700	19.745	33.567	0.000	0.000	1715.991	0.721	82.396	0.001	0.001	1714.509	7.891	1715.509	1.721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.427	134.269	134.269
60	0.300	0.984	-0.300	-0.984	81.925	0.752	18.450	0.918	8	0	8	0	0	120.915	0.058	0.058	0.000	0.000	1.700	19.621	33.356	0.000	0.000	1413.132	0.919	81.867	0.007	0.007	1403.191	7.793	1404.191	1.791	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.342	133.423	133.423
61	0.350	1.148	-0.350	-1.148	65.943	0.766	2.110	1.162	8	6	8	7	8	120.915	0.068	0.068	0.000	0.000	1.700	15.793	26.849	12.803	21.764	970.901	1.163	65.875	0.001	0.001	969.930	6.311	970.930	1.930	11.118	93.285	39.941	-0.421	2.102	138.672	0.000	0.000	0.000	10.740	107.395	107.395
62	0.400	1.312	-0.400	-1.312	53.431	1.341	-3.070	2.510	6	8	8	7	8	114.551	0.078	0.078	0.000	0.000	1.700	20.475	34.807	0.000	0.000	688.384	2.513	53.353	-0.002	-0.002	689.620	5.128	690.620	2.229	0.000	85.347	38.936	-0.526	2.261	120.843	0.000	0.000	0.000	8.702	87.017	87.017
63	0.450	1.476	-0.450	-1.476	40.476	0.815	-0.630	2.014	6	8	8	7	8	114.551	0.087	0.087	0.000	0.000	1.700	15.510	26.368	0.000	0.000	464.779	2.018	40.389	-0.000	-0.000	465.005	3.879	466.005	2.247	0.000	75.748	37.609	-0.432	2.556	103.513	0.000	0.000	0.000	6.592	65.919	65.919
64	0.500	1.640	-0.500	-1.640	21.031	0.605	4.950	2.877	5	7	5	7	8	114.551	0.096	0.096	0.000	0.000	1.700	10.074	17.125	0.000	0.000	217.402	2.890	20.935	0.007	0.007	215.798	2.000	216.798	3.481	0.423	5.536	74.398	0.000	0.000	0.000	0.000	0.000	0.000	3.425	34.251	34.251
65	0.550	1.804	-0.550	-1.804	25.904	0.506	-0.960	1.953	6	6	7	7	8	114.551	0.106	0.106	0.000	0.000	1.700	9.926	16.875	6.065	10.310	244.097	1.961	25.798	-0.001	-0.001	244.380	2.484	245.380	2.386	25.829	60.150	35.477	-0.358	3.205	83.050	0.000	0.000	0.000	4.219	42.187	42.187
66	0.600	1.968	-0.600	-1.968	25.263	0.261	-1.180	1.033	7	6	7	7	8	117.733	0.115	0.115	0.000	0.000	1.700	8.067	13.714	5.526	9.394	218.267	1.038	25.147	-0.001	-0.001	218.587	2.424	219.587	2.230	20.006	58.194	35.357	-0.265	3.244	81.997	0.000	0.000	0.000	4.114	41.143	41.143
67	0.650	2.133	-0.650	-2.133	35.526	0.356	-0.720	1.002	7	6	8	7	8	117.733	0.125	0.125	0.000	0.000	1.700	11.344	19.286	7.368	12.525	283.501	1.006	35.401	-0.001	-0.001	283.681	3.405	284.681	2.100	15.813	66.813	36.986	-0.287	2.729	96.987	0.000	0.000	0.000	5.786	57.857	57.857
68	0.700	2.297	-0.700	-2.297	23.513	0.515	-5.890	2.190	6	5	7	6	8	114.551	0.134	0.134	0.000	0.000	1.700	9.010	15.317	5.670	9.640	173.957	2.203	23.379	-0.008	-0.008	175.325	2.270	176.325	2.450	28.504	53.930	35.014	-0.341	3.359	79.003	0.000	0.000	0.000	3.829	38.294	38.294
69	0.750	2.461	-0.750	-2.461	38.178	0.830	2.830	1.653	7	6	8	7	8	117.733	0.144	0.144	0.000	0.000	1.700	12.191	20.725	8.281	14.078	264.271	1.659	38.034	0.002	0.002	263.657	3.649	264.657	2.212	19.326	69.842	37.330	-0.340	2.631	100.500	0.000	0.000	0.000	6.218	62.176	62.176
70	0.800	2.625	-0.800	-2.625	35.418	0.794	-0.400	2.242	6	6	8	7	8	114.551	0.154	0.154	0.000	0.000	1.700	13.572	23.072	8.062	13.705	229.816	2.252	35.264	-0.000	-0.000	229.897	3.394	230.897	2.322	23.358	63.772	36.971	-0.375	2.733	96.843	0.000	0.000	0.000	5.768	57.681	57.681
71	0.850	2.789	-0.850	-2.789	29.368	0.790	6.030	2.690	6	8	8	7	8	114.551	0.163	0.163	0.000	0.000	1.700	11.254	19.131	0.000	0.000	179.347	2.705	29.205	0.006	0.006	178.192	2.795	179.192	2.436	0.000	57.552	36.077	-0.384	3.009	88.400	0.000	0.000	0.000	4.783	47.828	47.828
72	0.900	2.953	-0.900	-2.953	18.552	0.762	1.960	4.107	4	9	6	8	8	114.551	0.172	0.172	0.000	0.000	1.700	11.849	20.143	0.000	0.000	106.715	4.146	18.380	0.003	0.003	106.362	1.771	107.362	2.709	0.000	43.583	33.882	-0.449	3.733	69.276	0.000	0.000	0.000	3.021	30.214	30.214
73	0.950	3.117	-0.950	-3.117	27.525	0.565	12.030	2.053	5	8	7	6	8	114.551	0.182	0.182	0.000	0.000	1.700	10.548	17.931	6.428	10.927	160.546	2.065	27.343	-0.014	-0.014	148.479	2.380	149.479	2.380	25.596	54.129	35.767	-0.312	3.109	85.619	0.000	0.000	0.000	4.483	44.827	44.827
74	1.000	3.281	-1.000	-3.281	22.938	0.521	-0.310	2.271	6	5	7	6	8	114.551	0.191	0.191	0.000	0.000	1.700	8.790	14.943	5.581	9.488	119.080	2.290	22.747	-0.000	-0.000	119.131	2.198	120.131	2.469	29.327	48.181	34.896	-0.304	3.398	77.975	0.000	0.000	0.000	3.736	37.357	37.357
75	1.050	3.445	-1.050	-3.445	15.659	0.411	1.370	2.625	5	5	6	6	4	114.551	0.201	0.201	0.000	0.000	1.700	7.500	12.751	4.139	7.037	77.130	2.659	15.458	0.003	0.003	76.916	1.496	77.916	2.639	37.279	36.550	33.072	-0.279	0.000	0.000	0.000	0.000	0.000	2.550	25.502	25.502
76	1.100	3.609	-1.100	-3.609	14.900	0.340	1.580	2.282	5	5	6	6	5	114.551	0.210	0.210	0.000	0.000	1.700	7.137	12.133	3.899	6.628	70.015	2.314	14.690	0.003	0.003	69.780	1.423	70.780	2.619	36.279	34.470	32.835	-0.245	0.000	0.000	0.000	0.000	0.000	2.427	24.266	24.266
77	1.150	3.773	-1.150	-3.773	14.048	0.298	2.870	2.121	5	5	6	6	5	114.551	0.219	0.219	0.000	0.000	1.700	6.729	11.439	3.679	6.255	63.085	2.155	13.829	0.006	0.006	62.677	1.337	63.677	2.621	36.373	32.155	32.554	-0.223	0.000	0.000	0.000	0.000	0.000	2.288	22.878	22.878
78	1.200	3.937	-1.200	-3.937	11.883	0.227	2.040	2.331	5	5	6	6	5	114.551	0.229	0.229	0.000	0.000	1.700	5.692	9.676	3.250	5.525	50.980	2.377	11.654	0.005	0.005	50.702	1.132	51.702	2.704	40.689	30.252	31.754	-0.213	0.000	0.000	0.000	0.000	0.000	1.935	19.352	19.352
79	1.250	4.101	-1.250	-4.101	9.930	0.242	3.210	2.437	5	5	5	6	4	114.551	0.238	0.238	0.000	0.000	1.700	4.756	8.086	2.829	4.809	40.724	2.497	9.692	0.010	0.010	40.303	0.942	41.303	2.780	44.857	0.000	30.896	-0.193	0.000	0.000	0.000	0.000	0.000	1.617	16.172	16.172
80	1.300	4.265	-1.300	-4.265	9.591	0.181	8.230	1.887	5	5	5	6	5	114.551	0.247	0.247	0.000	0.000	1.700	4.594	7.810	2.659	4.521	37.770	1.937	9.344	0.027	0.027	36.732	0.894	37.732	2.730	42.070	0.000	30.731	-0.152	0.000	0.000	0.000	0.000	0.000	1.562	15.621	15.621
81	1.350	4.429	-1.350	-4.429	9.769	0.170	12.660	1.740	5	5	5	5	5	114.551	0.257	0.257	0.000	0.000	1.700	4.679	7.955	2.672	4.542	37.044	1.787	9.512	0.040	0.042	35.505	0.898	36.505	2.704	40.677	0.000	30.818	-0.141	0.000	0.000	0.000	0.000	0.000	1.591	15.910	15.910
82	1.400	4.593	-1.400	-4.593	10.649	0.161	11.100	1.512	5	5	5	6	5	114.551	0.266	0.266	0.000	0.000	1.700	5.101	8.672	2.816	4.787	39.008	1.551	10.383	0.033	0.033	37.706	0.987	38.706	2.639	37.312	0.000	31.230	-0.133	0.000	0.000	0.000	0.000	0.000	1.734	17.343	17.343
83	1.450	4.757	-1.450	-4.757	7.341	0.136	4.980	1.853	5	5	4	6	4	114.551	0.276	0.276	0.000	0.000	1.700	5.516	9.078	2.146	3.647	29.639	1.925	7.066	0.021	0.022	25.675	0.688	26.675	2.826	47.516	0.000	29.453	-0.111	0.000	0.000	0.000	0.000	0.000	1.196	11.956	11.956
84	1.500	4.921	-1.500	-4.921	6.113	0.100	8.470	1.636	4	4	4	5	4	114.551	0.285	0.285	0.000	0.000	1.700	3.904	6.637	1.587	5.543	20.451	1.716	5.828	0.043	0.045	19.523	0.560	20.523	2.603	35.527	0.000	28.579	-0.074	0.000	0.000	0.000	0.000	0.000	0.996	9.955	20.451
85	1.550	5.085	-1.550	-5.085	6.199	0.085	12.580	1.371	1	4	4	5	4	111.369	0.294	0.294	0.000	0.000	1.700	2.969	5.047	1.810	3.078	20.067	1.440	5.904	0.063	0.067	18.732	0.556	19.732	2.825	47.446	0.000	28.645	-0.056	0.000	0.000	0.000	0.000	0.000	1.009	10.095	10.095
86	1.600	5.249	-1.600	-5.249	6.259	0.100	12.720	1.598	4	4	4	5	4	114.551	0.304	0.304	0.000	0.000	1.700	3.998	6.796	1.633	5.345	19.624	1.679	5.956	0.063	0.067	18.316	0.562	19.316	2.613	36.001	0.000	28.692	-0.066	0.000	0.000	0.000	0.000	0.000	1.019	10.194	19.624
87	1.650	5.413	-1.650	-5.413	5.532	0.122	8.400	2.205	4	4	4	5	4	114.551	0.313	0.313	0.000	0.000	1.700	3.533	6.007	1.553	4.887	16.682	2.337	5.220	0.047	0.050	15.844	0.505	16.844	2.753	43.308	0.000	28.102	-0.078	0.000	0.000	0.000	0.000	0.000	0.901	9.010	16.682
88	1.700	5.577	-1.700	-5.577	4.527	0.117	12.530	2.585	3	3	3	4	3	111.369	0.322	0.322	0.000	0.000	1.700	4.337	7.373	1.967	4.114	13.052	2.782	4.205	0.107	0.115	11.547	0.387	12.547	2.883	50.961	0.000	27.733	-0.037	0.000	0.000	0.000	0.000	0.000	0.707	7.373	13.052
89	1.750	5.741	-1.750	-5.741	4.486	0.090	18.570	2.006	4	4	3	4	4	114.551	0.332	0.332	0.000	0.000	1.700	2.865	4.871	1.319	3.847	12.535	2.166	4.155	0.129	0.140	10.787	0.374	11.787	2.837	48.133	0.000	27.100	-0.029	0.000	0.000	0.000	0.000	0.000	0.731	7.306	12.535
90	1.800	5.905	-1.800	-5.905	3.976	0.076	25.000	1.911	1	4	3	3	4	111.369	0.341	0.341	0.000	0.000	1.700	1.905	3.238	1.203	3.371	10.671	2.091	3.635	0.196	0.215	8.380	0.306	9.380	2.887	51.190	0.000	26.524	0.001	0.000	0.000	0.000	0.000	0.000	0.648	6.475	10.671
91	1.850	6.069	-1.850	-6.069	4.147	0.068	26.680	1.640	1	4	3	3	4	111.369	0.350	0.350	0.000	0.000	1.700	1.986	3.377	1.225	3.348	10.853	1.791	3.797	0.201	0.219	8.473	0.317	9.473	2.845	48.662	0.000	26.725	0.010	0.000	0.000	0.000	0.000	0.000	0.675	6.753	10.853
92	1.900	6.234	-1.900	-6.234	4.079	0.068	28.730	1.667	1	4	3	3	4	111.369	0.359	0.359	0.000	0.000	1.700	1.954	3.322	1.220	3.237	10.365	1.828	3.720	0.220	0.241	7.866	0.305	8.866	2.867	49.971	0.000	26.646	0.016	0.000	0.000	0.000	0.000	0.000	0.664	6.644	10.365
93	1.950	6.398	-1.950	-6.398	4.229	0.068	31.910	1.608	1	4	3	3	4	111.369	0.368	0.368	0.000	0.000	1.684	2.026	3.411	1.256	3.252	10.490	1.761	3.861	0.236	0.258	7.784	0.110	8.784	2.852	49.188	0.000	26.774	0.020	0.000	0.000	0.000	0.000	0.000	0.682	6.823	10.490
94	2.000	6.562	-2.000	-6.562	4.335	0.076	34.430	1.753	1	4	3	3	4	111.369	0.377	0.377	0.000	0.000	1.663	2.076	3.454	1.302	3.289	10.492	1.920	3.958	0.248	0.272	7.643	0.312	8.643	2.874	50.375	0.000	26.833	0.016	0.000	0.000	0.000	0.000	0.000	0.691	6.908	10.492
95	2.050	6.726	-2.050	-6.726	4.616	0.085	37.750	1.842	1	4	3	3	4	111.369	0.387	0.387	0.000	0.000	1.644	2.211	3.634	1.382	3.421	10.947	2.010	4.229	0.255	0.279	7.897	0.329	8.897	2.869	50.055	0.000	27.076	0.010	0.000	0.000	0.000	0.000	0.000	0.727	7.268	10.947
96	2.100	6.890	-2.100	-6.890	4.491	0.085	41.840	1.893	4	4	3	3	3	114.551	0.396	0.396	0.000	0.000	1.624	2.868	4.659	1.367	3.289	10.352	2.075	4.096	0.291	0.319	7.051	0.305	8.051	2.896	51.777	0.000	26.888	0.021	0.000	0.000	0.000	0.000	0.000	0.699	6.989	10.352
97	2.150	7.054	-2.150	-7.054	4.555	0.087	45.730	1.910	4	4	3	3	3	114.551	0.405	0.405	0.000	0.000	1.605	2.909	4.671	1.391	3.267	10.248	2.096	4.150	0.313	0.344	6.723	0.300	7.723	2.902	52.153	0.000	26.900	0.025	0.000	0.000	0.000	0.000	0.000	0.701	7.006	10.248
98	2.200	7.218	-2.200	-7.218	4.869	0.089	49.570	1.828	4	4	3	3	3	114.551	0.415	0.415	0.000	0.000	1.587	3.110	4.936	1.462	3.370	10.750	1.998	4.455	0.318	0.347	7.017	0.318	8.017	2.874	52.164	0.023	27.164	0.023	0.000	0.000	0.000	0.000	0.000	0.740	7.404	10.750
99	2.250	7.382	-2.250	-7.382	5.473	0.095	45.320	1.736	4	4	3	3	4	114.551	0.424	0.424	0.000	0.000	1.569	3.495	5.486	1.596	3.627	11.914	1.882	5.049	0.258	0.280	8.576	0.389	9.576	2.822	47.283	0.000	27.669	0.005	0.000	0.000	0.000	0.000	0.000	0.823	8.229	11.914
100	2.300	7.546	-2.300	-7.546	5.230	0.079	30.480	1.510	1	4	3	4	4	111.369	0.433	0.433	0.000	0.000	1.553	2.505	3.890	1.523	3.366	11.077	1.647	4.797	0.182	0.198	8.881	0.410	9.881	2.819	47.103	0.000	27.400	0.010	0.000	0.000	0.000	0.000	0.000	0.778	7.779	11.077
101	2.350	7.710	-2.350	-7.710	5.533	0.088	34.060	1.591	1	4	3	4	4	111.369	0.442	0.442	0.000	0.000	1.536	2.650	4.072	1.607	3.491	11.512	1.729	5.090	0.192	0.209	9.107	0.428	10.107	2.816	46.899	0.000	27.619	0.004	0.000	0.000	0.000	0.000	0.000	0.814	8.143	11.512
102	2.400	7.874	-2.400	-7.874	9.590	0.082	52.860	0.855	5	5	4	4	4	114.551	0.452	0.452	0.000	0.000	1.521	4.594	6.985	2.438	4.145	20.242	0.897	9.139	0.172	0.181	16.587	0.761	17.587	2.561	33.475	0.000	30.197	-0.010	0.000	0.000	0.000	0.000	0.000	1.397	13.970	15.618
103	2.450	8.038	-2.450	-8.038	9.746	0.076	39.340	0.889	5	5	4	4	4	114.551	0.461	0.461	0.000	0.000	1.505	4.189	6.305	2.268	3.856	17.977	0.917	9.285	0.140	0.148	15.312	0.720	16.312	2.604	35.399	0.000	29.708	0.004	0.000	0.000	0.000	0.000	0.000	1.261	12.609	14.243
104	2.500	8.202	-2.500	-8.202	6.539	0.072	33.520	1.101	1	4	4	4	4	111.369	0.470	0.470	0.000	0.000	1.490	3.132	4.667	1.776	3.659	12.910	1.186	6.069	0.160	0.172	10.684	0.526	11.684	2.691	39.965	0.000	28.271	0.013	0.000	0.000	0.000	0.000	0.000	0.933	9.335	12.910
105	2.550	8.366	-2.550	-8.366	5.350	0.051	41.680	0.953	1	4	3	3	4	111.369	0.479	0.479	0.000	0.000	1.476	2.563	3.782	1.505	2.985	10.164	1.047	4.871	0.243	0.267	7.449	0.355	8.449	2.703	43.582	0.000	27.266	0.055	0.000	0.000	0.000	0.000	0.000	0.756	7.564	10.164
106	2.600	8.530	-2.600	-8.530	5.184	0.067	51.940	1.292	1	4	3	3	3	111.369	0.489	0.489	0.000	0.000	1.462	2.483	3.630	1.528	2.959	9.615	1.427	4.696	0.313	0.345	6.295	0.341	7.295	2.842	48.429	0.000	27.071	0.053	0.000	0.000	0.000	0.000	0.000	0.726	7.261	9.615
107	2.650	8.694	-2.650	-8.694	5.762	0.093	62.720	1.614	4	4	3	3	3	114.551	0.498	0.498	0.000	0.000	1.448	3.680	5.329	1.709	3.275	10.577	1.767	5.264	0.340	0.372	6.644	0.364	7.644	2.822	49.054	0.000	27.530	0.036	0.000	0.000	0.000	0.000	0.000	0.799	7.994	10.577
108	2.700	8.858	-2.700	-8.858	8.273	0.112	32.570	1.354	5

	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	Q	R	S	T	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
136	4.100	13.451	-4.100	-13.451	74.710	4.509	-11.270	6.035	11	9	8	6	8	130.461	0.796	0.719	0.077	2.452	1.205	71.572	86.235	0.000	0.000	102.795	6.100	73.914	-0.006	-0.006	103.391	7.191	104.391	2.525	0.000	63.030	38.892	-0.786	2.269	169.564	0.000	0.000	0.000	8.623	86.235	86.235
137	4.150	13.615	-4.150	-13.615	74.434	4.018	-10.520	5.398	11	9	8	6	8	130.461	0.807	0.725	0.082	2.616	1.200	71.308	85.585	0.000	0.000	101.609	5.457	73.628	-0.006	-0.006	102.175	7.162	103.175	2.489	0.000	62.814	38.856	-0.631	2.275	169.442	0.000	0.000	0.000	8.559	85.585	85.585
138	4.200	13.779	-4.200	-13.779	74.145	3.930	-7.150	5.300	11	9	8	6	8	130.461	0.817	0.731	0.087	2.781	1.196	71.031	84.927	0.000	0.000	100.422	5.359	73.328	-0.004	-0.004	100.846	7.125	101.846	2.485	0.000	62.592	38.819	-0.609	2.282	169.302	0.000	0.000	0.000	8.493	84.927	84.927
139	4.250	13.943	-4.250	-13.943	74.411	3.956	-4.680	5.316	11	9	8	6	8	130.461	0.828	0.736	0.092	2.945	1.191	71.286	84.907	0.000	0.000	100.007	5.376	73.583	-0.003	-0.003	100.330	7.143	101.330	2.486	0.000	62.586	38.818	-0.611	2.283	169.924	0.000	0.000	0.000	8.491	84.907	84.907
140	4.300	14.107	-4.300	-14.107	75.060	3.731	-3.230	4.971	11	9	8	6	8	130.461	0.839	0.742	0.097	3.109	1.187	71.907	85.325	0.000	0.000	100.115	5.027	74.222	-0.003	-0.003	100.382	7.200	101.382	2.462	0.000	62.726	38.842	-0.553	2.278	171.072	0.000	0.000	0.000	8.532	85.325	85.325
141	4.350	14.271	-4.350	-14.271	86.456	3.085	0.950	3.568	6	8	9	6	8	114.551	0.849	0.747	0.102	3.273	1.183	33.130	39.182	0.000	0.000	114.711	3.604	85.608	-0.001	-0.001	114.808	8.280	115.808	2.312	0.000	66.683	39.501	-0.406	2.166	187.310	0.000	0.000	0.000	7.795	97.954	97.954
142	4.400	14.436	-4.400	-14.436	99.663	2.611	-1.100	2.620	7	5	9	6	8	117.733	0.858	0.751	0.107	3.437	1.179	31.826	37.529	21.262	25.073	131.619	2.643	98.805	-0.001	-0.001	131.807	9.551	132.807	2.170	18.000	70.673	40.166	-0.342	2.072	206.587	0.000	0.000	0.000	11.259	112.586	112.586
143	4.450	14.600	-4.450	-14.600	92.828	2.463	-6.750	2.653	6	5	9	6	5	114.551	0.868	0.755	0.112	3.601	1.176	35.572	41.823	20.014	23.532	121.786	2.678	91.960	-0.003	-0.004	122.214	8.913	123.214	2.195	18.840	68.553	39.813	-0.336	2.120	196.855	0.000	0.000	0.000	10.456	104.558	104.558
144	4.500	14.764	-4.500	-14.764	78.666	2.609	-7.090	3.317	6	5	9	6	8	114.551	0.877	0.760	0.118	3.765	1.172	30.145	35.343	17.865	20.945	102.438	3.354	77.789	-0.004	-0.004	102.884	7.557	103.884	2.317	23.159	63.727	39.009	-0.368	2.247	176.874	0.000	0.000	0.000	8.836	88.357	88.357
145	4.550	14.928	-4.550	-14.928	60.332	3.175	-7.690	5.263	11	9	8	6	8	130.461	0.887	0.765	0.123	3.929	1.169	57.798	67.546	0.000	0.000	77.777	5.341	59.445	-0.006	-0.006	78.252	5.803	79.252	2.546	0.000	56.029	37.726	-0.553	2.526	152.478	0.000	0.000	0.000	6.755	67.546	67.546
146	4.600	15.092	-4.600	-15.092	51.195	3.387	-7.240	6.616	3	9	8	6	8	111.369	0.897	0.769	0.128	4.094	1.165	49.045	57.137	0.000	0.000	65.399	6.734	50.298	-0.007	-0.007	65.859	4.926	66.859	2.633	0.000	51.232	36.926	-0.868	2.746	140.662	0.000	0.000	0.000	5.714	57.137	65.399
147	4.650	15.256	-4.650	-15.256	48.050	3.373	-4.860	7.020	3	9	8	6	8	111.369	0.906	0.773	0.133	4.258	1.162	46.032	53.488	0.000	0.000	60.979	7.155	47.144	-0.006	-0.006	61.347	4.618	62.347	2.673	0.000	49.340	36.611	-1.049	2.841	136.569	0.000	0.000	0.000	5.349	53.488	60.979
148	4.700	15.420	-4.700	-15.420	46.929	3.205	-5.000	6.829	3	9	8	6	8	111.369	0.915	0.777	0.138	4.422	1.159	44.958	52.105	0.000	0.000	59.210	6.965	46.014	-0.006	-0.006	59.589	4.511	60.589	2.672	0.000	48.589	36.486	-0.935	2.880	135.193	0.000	0.000	0.000	5.210	52.105	59.210
149	4.750	15.584	-4.750	-15.584	44.262	2.678	-6.100	6.050	3	3	8	6	8	111.369	0.925	0.781	0.143	4.586	1.156	42.403	49.017	11.768	15.397	55.480	6.179	43.338	-0.008	-0.008	55.907	4.259	56.907	2.650	37.851	0.000	0.000	0.000	0.000	2.890	0.000	10.000	4.902	49.017	55.480
150	4.800	15.748	-4.800	-15.748	41.441	2.518	-4.610	6.076	3	3	8	6	8	111.369	0.934	0.785	0.148	4.750	1.153	39.701	45.776	11.147	14.486	51.593	6.216	40.508	-0.007	-0.007	51.965	3.984	52.965	2.673	39.014	0.000	0.000	0.000	0.000	2.702	0.000	10.000	4.578	45.776	51.593
151	4.850	15.912	-4.850	-15.912	41.955	2.680	-2.340	6.388	3	3	8	6	8	111.369	0.943	0.789	0.153	4.914	1.150	40.193	46.226	11.370	14.701	51.970	6.535	41.013	-0.005	-0.006	52.257	4.026	53.257	2.687	39.762	0.000	0.000	0.000	0.000	2.735	0.000	10.000	4.623	46.226	51.970
152	4.900	16.076	-4.900	-16.076	45.840	2.809	-1.550	6.128	3	3	8	6	8	111.369	0.952	0.794	0.158	5.078	1.147	43.915	50.378	12.179	15.695	56.594	6.258	44.889	-0.005	-0.005	56.854	4.396	57.854	2.649	37.778	0.000	0.000	0.000	0.000	2.994	0.000	10.000	5.038	50.378	56.594
153	4.950	16.240	-4.950	-16.240	46.707	2.259	-2.090	4.837	4	4	8	6	3	114.551	0.961	0.798	0.164	5.243	1.144	29.830	34.132	12.015	14.509	57.375	4.938	45.746	-0.005	-0.005	57.662	4.481	58.662	2.585	34.610	48.086	36.402	-0.435	2.909	135.930	0.000	0.000	0.000	5.120	51.197	54.032
154	5.000	16.404	-5.000	-16.404	49.305	2.322	0.780	4.709	4	4	8	6	3	114.551	0.971	0.802	0.169	5.407	1.141	31.489	35.934	12.632	14.415	60.298	4.804	48.335	-0.003	-0.003	60.478	4.721	61.478	2.576	34.220	49.561	36.648	-0.428	2.834	139.792	0.000	0.000	0.000	5.390	53.901	53.901
155	5.050	16.568	-5.050	-16.568	73.189	2.401	1.460	3.281	6	5	8	6	4	114.551	0.980	0.806	0.174	5.571	1.138	28.046	31.920	16.817	19.139	89.604	3.325	72.209	-0.002	-0.002	89.763	7.007	90.763	2.344	24.172	60.807	38.522	-0.348	2.346	171.794	0.000	0.000	0.000	7.980	79.799	79.799
156	5.100	16.732	-5.100	-16.732	73.716	2.583	-10.270	3.504	6	5	8	6	4	114.551	0.989	0.810	0.179	5.735	1.135	28.248	32.064	17.089	19.398	89.770	3.552	72.727	-0.007	-0.007	90.387	7.093	91.387	2.364	24.954	60.937	38.544	-0.367	2.343	172.762	0.000	0.000	0.000	8.016	80.161	80.161
157	5.150	16.896	-5.150	-16.896	75.060	2.825	-3.270	3.764	5	4	8	6	8	114.551	0.999	0.815	0.184	5.899	1.132	35.954	40.704	17.549	19.868	90.937	3.814	74.061	-0.004	-0.004	91.289	7.200	92.289	2.383	25.706	61.379	38.617	-0.392	2.328	174.842	0.000	0.000	0.000	8.141	81.408	81.408
158	5.200	17.060	-5.200	-17.060	70.411	2.347	0.230	3.333	6	5	8	6	4	114.551	1.008	0.819	0.189	6.063	1.129	26.982	30.467	16.316	18.423	84.774	3.382	69.404	-0.003	-0.003	84.996	6.745	85.996	2.363	24.913	59.472	38.299	-0.345	2.397	168.828	0.000	0.000	0.000	7.617	76.167	76.167
159	5.250	17.224	-5.250	-17.224	119.106	1.741	79.480	1.462	8	6	9	6	5	120.915	1.018	0.824	0.194	6.227	1.126	28.526	32.122	23.253	26.184	143.446	1.474	118.089	0.019	0.019	140.668	11.173	141.668	1.944	11.493	74.460	40.797	-0.261	2.000	238.328	0.000	0.000	0.000	12.849	128.486	128.486
160	5.300	17.388	-5.300	-17.388	128.732	1.096	-9.330	0.851	9	6	9	6	6	124.097	1.028	0.828	0.199	6.392	1.123	24.665	27.691	23.497	26.380	154.203	0.858	127.704	-0.004	-0.004	154.795	12.360	155.795	1.760	7.281	76.602	41.154	-0.214	1.959	252.262	0.000	0.000	0.000	13.846	138.456	138.456
161	5.350	17.552	-5.350	-17.552	125.492	0.709	-7.650	0.565	9	6	9	6	6	124.097	1.038	0.834	0.205	6.559	1.119	24.044	26.912	22.118	24.756	149.367	0.570	124.455	-0.004	-0.004	149.899	12.045	150.899	1.658	6.358	75.744	41.018	-0.174	1.975	247.998	0.000	0.000	0.000	13.456	134.562	134.562
162	5.400	17.716	-5.400	-17.716	114.687	0.657	-6.870	0.573	9	6	9	6	6	124.097	1.048	0.839	0.210	6.720	1.116	21.974	24.521	20.468	22.840	135.564	0.578	113.639	-0.004	-0.004	136.070	11.008	137.070	1.695	6.023	73.117	40.574	-0.167	2.030	232.905	0.000	0.000	0.000	12.260	122.604	122.604
163	5.450	17.880	-5.450	-17.880	84.539	0.595	-6.550	0.704	8	6	9	6	6	120.915	1.058	0.844	0.215	6.884	1.113	20.247	22.528	15.976	17.776	99.005	0.713	83.481	-0.005	-0.005	99.502	8.118	100.502	1.857	9.374	64.291	39.103	-0.157	2.243	189.666	0.000	0.000	0.000	9.011	90.111	90.111
164	5.500	18.044	-5.500	-18.044	60.287	0.596	-3.670	0.989	8	6	8	6	5	120.915	1.068	0.848	0.220	7.048	1.109	14.439	16.020	12.327	13.676	69.834	1.006	59.219	-0.006	-0.006	70.229	5.786	71.229	2.064	14.755	54.518	37.474	-0.155	2.606	157.180	0.000	0.000	0.000	6.408	64.078	64.078
165	5.550	18.208	-5.550	-18.208	49.320	0.609	5.140	1.235	7	5	8	6	5	117.733	1.078	0.853	0.225	7.212	1.106	15.749	17.426	10.628	11.759	56.578	1.262	48.242	-0.003	-0.003	56.727	4.715	57.727	2.194	18.796	48.684	36.501	-0.155	2.891	142.624	0.000	0.000	0.000	5.228	52.277	52.277
166	5.600	18.372	-5.600	-18.372	39.746	0.660	92.330	1.661	7	5	7	6	5	117.733	1.088	0.858	0.230	7.376	1.104	12.692	14.006	9.155	10.103	45.099	1.707	38.659	0.067	0.069	42.006	3.532	43.006	2.349	24.390	42.422	35.458	-0.154	3.229	128.407	0.000	0.000	0.000	4.202	42.018	42.018
167	5.650	18.537	-5.650	-18.537	38.044	0.735	152.780	1.932	6	5	6	5	5	114.551	1.097	0.862	0.235	7.541	1.101	14.578	16.046	8.992	9.897	42.882	1.989	36.947	0.119	0.123	37.620	3.188	38.620	2.406	26.675	41.094	35.236	-0.158	3.304	125.756	0.000	0.000	0.000	4.012	40.116	40.116
168	5.700	18.701	-5.700	-18.701	37.207	0.763	164.530	2.051	6	5	6	5	4	114.551	1.107	0.866	0.240	7.705	1.098	14.258	15.655	8.895	9.767	41.693	2.114	36.101	0.132	0.136	36.039	3.072	37.039	2.431	27.711	40.386	35.118	-0.160	3.345	124.500	0.000	0.000	0.000	3.914	39.136	39.136
169	5.750	18.865	-5.750	-18.865	38.966	0.955	108.280	2.451	6	5	6	5	4	114.551	1.116	0.871	0.246	7.869	1.095	14.932	16.354	9.470	10.372	43.499	2.523	37.850	0.080	0.083	39.897	3.409	40.897	2.467	29.215	41.639	35.327	-0.193	3.276	127.705	0.000	0.000	0.000	4.089	40.886	40.886
170	5.800	19.029	-5.800	-19.029	39.686	1.156	277.140	2.530	6	5	6	5	5	114.551	1.125	0.875	0.251	8.033	1.093	17.507	19.128	10.885	11.892	50.960	2.594	44.561	0.143	0.146	43.495	3.727	44.495	2.624	27.398	42.175	35.487	-0.208	3.031	138.515	0.000	0.000	0.000	4.782	47.819	47.819
171	5.850	19.193	-5.850	-19.193	53.993	1.563	199.080	2.895	6	5	6	6	4	114.551	1.135	0.879	0.256	8.197	1.090	20.690	22.551	12.789	13.939	60.155	2.957	52.858	0.110	0.113	53.374	4.577	54.374	2.411	26.867	50.848	36.862	-0.254	2.787	150.522	0.000	0.000	0.000	5.638	56.377	56.377
172	5.900	19.357	-5.900	-19.357	59.177	2.107	105.220	3.561	5	4	7	6	4	114.551	1.144	0.883	0.261	8.361	1.087	28.346	30.820	14.255	15.499	65.725	3.631	58.033	0.051	0.052	62.300	5.355	63.300	2.448	28.400	53.406	37.288	-0.322	2.664	157.740	0.000	0.000	0.000	6.164	61.640	61.640
173	5.950	19.521	-5.950	-19.521	53.740	1.757	3.250	3.269	6	4	8	6	4	114.551	1.154	0.888	0.266	8.525	1.085	20.593	22.337	12.968	14.066	59.270	3.341	52.587	-0.003	-0.003	59.455	5.139	60.455	2.452	28.564	50.575	36.817	-0.294	2.802	150.652	0.000	0.000	0.000	5.584	55.842	55.842
174	6.000	19.685	-6.000	-19.685	50.844	1.773	-13.700	3.487	5	4	8	6	4	114.551	1.163	0.892	0.271	8.689	1.082	24.355	26.353	12.490	13.515	55.727	3.569	49.682	-0.014	-0.014	56.511	4.912	57.511	2.490	30.217	48.918	36.540	-0.303	2.887	146.868	0.000	0.000	0.000	5.271	52.706	52.706
175	6.050	19.849	-6.050	-19.849	52.760	1.440	11.200	2.294	6	5	6	5	5	114.551	1.172	0.896	0.276	8.853	1.079	24.050	25.961	14.124	15.246	68.752	2.338	61.588	-0.010	-0.010	69.451	6.046	70.451	2.296	32.982	54.535	36.246	0.000	3.163	163.241	0.000	0.000	0.000	6.490	64.902	64.902
176	6.100	20.013	-6.100	-20.013	80.506	1.006	-11.870	1.250	8	6	9	6	5	120.915	1.182	0.901	0.281	9.018	1.077	19.281	20.761	16.294	17.545	88.105	1.268	79.324	-0.008	-0.008	88.829	7.748	89.829	2.038	14.013	61.950	38.712	-0.199	2.327	187.375	0.000	0.000	0.000	8.304	83.044	83.044
177	6.150	20.177	-6.150	-20.177	110.626	0.691	0.970	0.625	9	6	9	6	6	124.097	1.192	0.906	0.287	9.182	1.074	21.196	22.761	20.079	21.561	120.887	0.631	109.434	-0.002	-0.002	121.170	10.595	122.170	1.744	6.959	70.982	40.218	-0.164	2.087	230.947	0.000	0.000	0.000	11.380	113.803	113.803
178	6.200	20.341	-6.200	-20.341	132.659	0.754	1.430	0.568	9	6	9	6	6	124.097	1.202	0.911	0.292	9.346	1.071	25.417	27.218	23.363	25.018	144.408	0.574	131.457	-0.002	-0.002	144.679	12.704	145.679	1.656	5.319	76.108	41.072	-0.172	1.981	262.856	0.000	0.000	0.000	13.609	136.089	136.089
179	6.250	20.505	-6.250	-20.505	141.845	0.883	8.800	0.623	9	6	9	6	6	124.097	1.213	0.916	0.297	9.510	1.068	27.177	29.022	24.993	26.689	153.634	0.628	140.633	-0.000	-0.000	153.658	13.562	154.658	1.658	5.344	77.947	41.379	-0.185	1.946	276.126	0.000	0.000	0.000	14.511	145.110	145.110
180	6.300	20.669	-6.300	-20.669	148.304	1.079	11.900	0.728	9	6	9	6	6	124.097	1.223	0.921	0.302	9.674	1.065	28.415	30.260	26.386	28.099	159.757	0.734	147.082	-0.001	-0.001	159.721	14.172	160.721	1.686	5.350	79.786	41.578	-0.202	1.929	285.694	0.000	0.000	0.000	15.130	151.301	151.301
181	6.350	20.833	-6.350	-20.833	149.578	1.317	14.080	0.880	9	6	9	6	6	124.097	1.233	0.926	0.307	9.838	1.062	28.659	30.436	27.102	28.783	160.289	0.888	148.346	0.001	0.001	160.145	14.287	161.145	1.739	6.862	79.311	41.606	-0.220	1.924	287.841	0.000	0.000	0.000	15.218	152.182	152.182
182	6.400	20.997	-6.400	-20.997	135.635	1.639	13.590	1.208	8	6	9	6	5	120.915	1.243	0.931	0.312	10.003	1.059	32.485	34.408	25.712	27.234	144.443	1.220	134.392	0.001	0.001	144.323	12.953	145.323	1.865	9.568	76.431	41.126	-0.242	1.977	268.287	0.000	0.000	0.000	13.763	137.631	137.631
183	6.450	21.161	-6.450	-21.161	132.916	1.785	15.410	1.343	8	6	9	6	5	120.915	1.253	0.936	0.317	10.167	1.056	31.833	33.631	25.565	27.009	140.785	1.356	131.664	0.001	0.001	140.610	12.687	141.610	1.905	10.502	75.777	41.017	-0.251	1.991	264.750	0.000	0.000	0.000	13.453	134.526	134.526
184	6.500	21.325	-6.500	-21.325	150.138	1.683	15.770	1.121	8	6	9	6	5	120.915	1.263	0.940	0.322	10.331	1.054	35.958	37.892	27.920	29.422	158.377	1.130	148.876	0.001	0.001	158.196	14.336	159.196	1.812	8.382	79.196	41.587	-0.243	1.927	289.481	0.000	0.000	0.000	15.157	151.568	151.568
185	6.550	21.489	-6.550	-21.489	157.079	1.427	-0.110	0.908	9	6	9	6	6	124.097	1.273	0.945	0.328	10.499	1.051	35.096	36.632	28.430	29.881	164.886	0.916	153.902	-0.002	-0.002	165.236	15.049	166.236	1.730	9.226	81.390	41.790	-0.226	1.910	300.135	0.000	0.000	0.000	15.816	158.161	158.161
186	6.600	21.653	-6.600	-21.653	148.630	1.221	1.570	0.822	9	6	9	6	6	124.097	1.283	0.950	0.333	10.659	1.048	28.477	29.851	26.803	28.095	155.103	0.829	147.347	-0.002	-0.002	155.402	14.234	156.402	1.725	6.595	78.755	41.513	-0.211	1.936	287.875	0.000	0.000	0.000	14.925	149.255	149.255
187	6.650	21.817	-6.650	-21.817	133.387	1.418	7.560	1.063	8	6	9	6	5	120.915	1.293	0.955	0.338	10.823	1.046	31.946	33.401	25.021	26.160	138.330	1.073	132.095	-0.001	-0.001	138.437	12.756	139.437	1.836	8.910	75.579	40.984	-0.225	1.998	266.625	0.000	0.000	0.000	13.360	133.602	133.602
188	6.700	21.981	-6.700	-21.981	135.273	1.365	13.300	1.009	8	6	9	6	6	120.915	1.303	0.960	0.343	10.987	1.043	32.398	33.788	25.201	26.282	139.594	1.019	133.971	0.001	0.001	139.518	12.919	140.518	1.817	8.489	75.910	41.039	-0.221	1.992	269.582	0.000	0.000	0.000	13.515	135.152	135.152
189	6.750	22.145	-6.750	-22.145	142.700	1.391	40.060	0.975	9	6	9	6	6	124.097	1.313	0.965	0.348	11.152	1.040	27.341	28.442	26.333	27.393	146.570	0.984	141.388	0.006	0.006	145.634	13.551	146.634	1.790	7.920	77.368	41.282	-0.221	1.964	280.338	0.000	0.000	0.000	14.221	142.208	142.208
190	6.800	22.309	-6.800	-22.309	167.068	1.395	36.550	0.835	9	6	9	6	6	124.097	1.323	0.970	0.353	11.316	1.038	32.010	33.211	29.817	30.936	170.924	0.842	165.745	0.005	0.005	170.112	15.896	171.112	1.695	6.025	81.812	42.023	-0.221	1.899	317.464	0.000	0.000	0.000	16.606	166.057	166.057
191	6.850	22.473	-6.850	-22.473	181.662	1.186	3.510	0.653	9	6	9	7	6	124.097	1.333	0.975	0.358	11.480	1.035	34.806	36.019	31.369	32.462	184.999	0.658	180.329	-0.001	-0.001	185.254	17.393	186.254	1.598	4.323	84.138	42.410	-0.206	1.911	347.217	0.000	0.000	0.000	18.009	180.093	180.093
192	6.900	22.638	-6.900	-22.638	195.156	1.050	5.770	0.538	9	6	9	7	6	124.097	1.344	0.980	0.363	11.644	1.032	37.392	38.594	32.858	33.915	197.805	0.542	193.813	-0.001	-0.001	197.992	18.679	198.992	1.521	3.135	86.118	42.740	-0.195	1.981	386.840	0.000	0.000	0.000	19.297	192.971	192.971
193	6.950	22.802	-6.950	-22.802	196.709	0.874	4.680	0.444	9	6	9	7	6	124.097	1.354	0.985	0.368	11.808	1.030	37.689	38.801	32.564	33.525	198.356	0.447	195.356	-0.001	-0.001	198.582	18.831	199.582	1.468	2.397	86.271	42.766	-0.178	1.991	391.781	0.000	0.000	0.000	19.401	194.007	194.007
194	7.000	22.966	-7.000	-22.966	193.738	0.890	4.510	0.459	9	6	9	7	6	124.097	1.364	0.990	0.374	11.972	1.027	37.120	38.118	32.225	33.091	194.331	0.463	192.375	-0.001	-0.001	194.566	18.547	195.566	1.483	2.470	85.762	42.681	-0.180	1.963	380.558	0.000	0.000	0.000	19.053	190.588	190.588
195	7.050	23.130	-7.050	-23.130	192.173	1.034	13.230	0.538	9	6	9	7	7	124.097	1.374	0.995	0.379	12.136	1.024	36.820	37.713	32.439	33.226	191.760	0.542	190.799	0.000	0.000	191.725	18.371	192.725	1.529	3.252	85.456	42.630	-0.192	1.950	374.936	0.000	0.000	0.000	18.857	188.567	188.567
196	7.100	23.294	-7.100	-23.294	205.713	1.258	19.750	0.612	9	6	9	7	7	124.097	1.384	1.000	0.384	12.301	1.022	39.415	40.268	34.879	35.634	204.320	0.616	204.330	0.001	0.001	204.087	19.648	205.087	1.542	3.454	87.335	42.943	-0.209	0.000	0.000	0.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
271	10.850	35.597	-10.850	-35.597	39.345	1.694	-15.290	4.306	4	4	3	8	5	3	114.551	2.120	1.352	0.768	24.611	0.879	25.128	22.082	11.119	8.125	27.541	4.551	37.225	-0.032	-0.033	28.462	3.815	29.462	2.766	44.033	0.000	0.000	0.000	0.000	2.483	0.000	10.000	3.312	33.124	27.541
272	10.900	35.761	-10.900	-35.761	32.385	1.593	-16.740	4.919	3	3	7	5	3	3	111.369	2.129	1.356	0.773	24.775	0.877	31.025	27.223	9.737	7.004	22.317	5.265	30.257	-0.040	-0.043	23.272	3.153	24.272	2.876	50.489	0.000	0.000	0.000	0.000	2.018	0.000	8.417	2.722	27.223	22.317
273	10.950	35.925	-10.950	-35.925	24.253	1.150	-17.170	4.742	3	3	7	4	3	3	111.369	2.139	1.360	0.778	24.939	0.876	23.234	20.357	7.737	5.416	16.264	5.200	22.115	-0.054	-0.059	17.230	2.375	18.230	2.975	56.812	0.000	0.000	0.000	0.000	1.475	0.000	5.147	2.036	20.357	16.264
274	11.000	36.089	-11.000	-36.089	19.577	1.315	-13.330	6.717	3	3	6	4	2	3	111.369	2.148	1.364	0.783	25.103	0.875	18.755	16.408	7.049	4.803	12.780	7.544	17.430	-0.061	-0.069	13.660	1.915	14.660	3.160	69.929	0.000	0.000	0.000	0.000	1.162	0.000	3.591	1.641	16.408	12.780
275	11.050	36.253	-11.050	-36.253	26.897	1.333	9.180	4.956	3	3	7	5	3	3	111.369	2.157	1.368	0.789	25.267	0.874	25.768	22.510	8.452	5.933	18.088	5.388	24.741	-0.019	-0.020	18.455	2.549	19.455	2.950	55.191	0.000	0.000	0.000	0.000	1.650	0.000	6.060	2.251	22.510	18.088
276	11.100	36.417	-11.100	-36.417	42.589	1.859	-1.840	4.365	4	4	8	5	3	3	114.551	2.166	1.373	0.794	25.432	0.872	27.200	23.725	11.917	8.606	29.464	4.599	40.423	-0.020	-0.021	30.084	4.085	31.084	2.747	43.013	37.661	34.664	-0.284	3.628	154.589	0.000	0.000	0.000	3.559	35.588	29.464
277	11.150	36.581	-11.150	-36.581	89.800	2.348	-8.040	2.615	6	5	9	6	4	4	114.551	2.176	1.377	0.799	25.596	0.871	34.411	29.969	20.187	17.581	63.670	2.680	87.625	-0.012	-0.012	64.433	8.627	65.433	2.294	22.291	59.000	38.221	-0.260	2.529	227.157	0.000	0.000	0.000	7.492	74.922	74.922
278	11.200	36.745	-11.200	-36.745	96.712	2.975	-12.560	3.076	6	5	9	6	4	4	114.551	2.185	1.381	0.804	25.760	0.870	37.060	32.226	22.021	19.149	68.473	3.147	94.528	-0.012	-0.013	69.339	9.303	70.339	2.323	23.388	61.081	38.568	-0.300	2.452	237.248	0.000	0.000	0.000	8.056	80.564	80.564
279	11.250	36.909	-11.250	-36.909	77.380	2.693	-16.020	3.480	6	4	8	6	4	4	114.551	2.194	1.385	0.809	25.924	0.868	29.652	25.744	18.492	16.055	54.295	3.582	75.187	-0.017	-0.017	55.240	7.461	56.240	2.431	27.675	54.644	37.495	-0.301	2.715	210.189	0.000	0.000	0.000	6.436	64.361	64.361
280	11.300	37.073	-11.300	-37.073	71.323	2.094	-15.530	2.936	6	4	8	6	4	4	114.551	2.204	1.390	0.814	26.088	0.867	27.331	23.693	16.833	14.592	49.760	3.030	69.120	-0.018	-0.019	50.695	6.879	51.695	2.403	26.547	52.264	37.098	-0.252	2.829	201.881	0.000	0.000	0.000	5.923	59.231	59.231
281	11.350	37.237	-11.350	-37.237	66.873	2.364	-13.920	3.535	6	4	8	6	4	4	114.551	2.213	1.394	0.819	26.252	0.866	25.626	22.180	16.366	14.166	46.407	3.656	64.661	-0.019	-0.019	47.307	6.448	48.307	2.482	29.869	50.373	36.783	-0.284	2.925	195.717	0.000	0.000	0.000	5.545	55.451	55.451
282	11.400	37.401	-11.400	-37.401	74.815	2.350	-12.080	3.141	6	4	8	6	4	4	114.551	2.223	1.398	0.824	26.416	0.864	28.669	24.776	17.713	15.308	51.941	3.237	72.593	-0.016	-0.017	52.800	7.203	53.800	2.410	26.831	53.546	37.312	-0.271	2.769	207.265	0.000	0.000	0.000	6.194	61.941	61.941
283	11.450	37.565	-11.450	-37.565	132.580	2.486	-6.430	1.875	7	5	9	6	5	5	117.733	2.232	1.403	0.829	26.581	0.863	42.337	36.531	27.199	23.469	92.972	1.907	130.349	-0.008	-0.008	93.707	12.720	94.707	2.073	15.002	69.901	40.038	-0.251	2.200	291.762	0.000	0.000	0.000	10.959	109.593	109.593
284	11.500	37.729	-11.500	-37.729	336.982	2.641	-2.850	0.784	9	6	10	7	6	6	124.097	2.242	1.407	0.835	26.745	0.861	64.566	55.616	56.661	48.807	237.943	0.789	334.741	-0.003	-0.003	238.600	32.291	239.600	1.517	3.075	0.000	0.000	44.486	-0.246	0.000	0.000	0.000	27.808	278.081	278.081
285	11.550	37.893	-11.550	-37.893	352.145	2.392	-4.040	0.679	10	6	10	7	6	6	127.279	2.252	1.413	0.840	26.909	0.860	56.226	48.343	58.118	49.970	247.800	0.684	349.893	-0.003	-0.003	248.484	33.748	249.484	1.459	2.269	0.000	0.000	44.687	-0.236	0.000	0.000	0.000	29.006	290.059	290.059
286	11.600	38.057	-11.600	-38.057	352.580	2.316	-4.750	0.657	10	6	10	7	6	6	127.279	2.263	1.418	0.845	27.073	0.858	56.295	48.312	58.000	49.775	247.170	0.661	350.319	-0.003	-0.003	247.871	33.791	248.871	1.448	2.133	0.000	0.000	44.684	-0.233	0.000	0.000	0.000	28.987	289.872	289.873
287	11.650	38.221	-11.650	-38.221	344.567	2.466	1.140	0.716	10	6	10	7	6	6	127.279	2.273	1.423	0.850	27.237	0.857	55.016	47.126	57.308	49.089	240.606	0.720	342.295	-0.002	-0.002	241.178	33.006	242.178	1.483	2.596	0.000	0.000	44.566	-0.238	0.000	0.000	0.000	28.275	282.755	282.755
288	11.700	38.385	-11.700	-38.385	283.842	2.478	1.860	0.873	9	6	10	7	6	6	124.097	2.284	1.428	0.855	27.401	0.855	54.384	46.500	49.124	42.002	197.195	0.880	281.559	-0.003	-0.003	197.753	27.186	198.753	1.604	4.434	91.459	43.631	-0.239	0.000	0.000	0.000	0.000	23.250	232.499	232.499
289	11.750	38.549	-11.750	-38.549	266.890	3.356	8.030	1.257	9	6	10	7	5	6	124.097	2.294	1.433	0.860	27.565	0.854	51.136	43.646	48.394	41.305	184.661	1.268	264.597	-0.002	-0.002	185.086	25.544	186.086	1.741	6.904	89.643	43.328	-0.271	0.000	0.000	0.000	0.000	21.823	218.228	218.228
290	11.800	38.713	-11.800	-38.713	274.307	3.570	13.950	1.301	9	6	10	7	5	6	124.097	2.304	1.439	0.865	27.730	0.852	52.557	44.780	49.811	42.440	189.163	1.312	272.004	-0.002	-0.002	189.461	26.237	190.461	1.745	6.986	90.379	43.451	-0.277	0.000	0.000	0.000	0.000	22.390	223.898	223.898
291	11.850	38.877	-11.850	-38.877	273.063	3.629	22.910	1.329	9	6	10	7	5	6	124.097	2.314	1.444	0.870	27.894	0.851	52.319	44.498	49.738	42.303	187.631	1.340	270.750	-0.001	-0.001	187.738	26.091	188.738	1.754	7.161	90.198	43.420	-0.279	0.000	0.000	0.000	0.000	22.249	222.491	222.491
292	11.900	39.042	-11.900	-39.042	386.551	3.232	30.550	0.836	10	6	10	7	8	6	127.279	2.324	1.449	0.876	28.058	0.849	61.719	52.399	64.693	54.924	265.317	0.841	384.227	0.000	0.000	265.263	36.940	266.263	1.502	2.867	0.000	45.072	-0.262	0.000	0.000	0.000	0.000	31.440	314.396	314.396
293	11.950	39.206	-11.950	-39.206	396.439	1.507	3.110	0.380	10	7	10	7	6	6	127.279	2.335	1.454	0.881	28.222	0.847	63.298	53.641	61.409	52.040	271.142	0.382	394.106	-0.002	-0.002	271.681	37.970	272.681	1.253	0.000	0.000	45.184	-0.193	0.000	0.000	0.000	0.000	32.185	321.849	321.849
294	12.000	39.370	-12.000	-39.370	362.217	1.619	-2.060	0.447	10	6	10	7	6	6	127.279	2.345	1.459	0.886	28.386	0.846	57.834	48.921	57.416	48.568	246.688	0.450	359.873	-0.003	-0.003	247.339	34.707	248.339	1.329	2.714	0.000	44.744	-0.198	0.000	0.000	0.000	0.000	29.353	293.529	293.529
295	12.050	39.534	-12.050	-39.534	324.150	2.351	9.680	0.725	10	6	10	7	6	6	127.279	2.355	1.465	0.891	28.550	0.844	51.756	43.701	54.384	45.920	219.785	0.731	321.796	-0.002	-0.002	220.187	31.025	221.187	1.510	2.977	94.906	44.205	-0.231	0.000	0.000	0.000	0.000	26.220	262.203	262.203
296	12.100	39.698	-12.100	-39.698	352.030	2.598	6.330	0.738	10	6	10	7	6	6	127.279	2.366	1.470	0.896	28.714	0.843	56.207	47.373	56.704	48.477	237.955	0.743	349.664	-0.002	-0.002	238.430	33.705	239.430	1.411	2.710	94.541	44.591	-0.240	0.000	0.000	0.000	0.000	28.424	284.239	284.239
297	12.150	39.862	-12.150	-39.862	337.428	2.606	14.080	0.772	9	6	10	7	6	6	124.097	2.376	1.475	0.901	28.879	0.841	64.651	54.394	56.773	47.766	227.209	0.778	335.052	-0.001	-0.001	227.522	32.283	228.522	1.519	3.104	0.000	44.380	-0.240	0.000	0.000	0.000	0.000	27.197	271.969	271.969
298	12.200	40.026	-12.200	-40.026	325.396	2.534	13.830	0.779	9	6	10	7	6	6	124.097	2.387	1.480	0.906	29.043	0.840	62.346	52.365	54.999	46.194	218.294	0.784	323.011	-0.001	-0.001	218.615	31.132	219.615	1.533	3.310	94.864	44.198	-0.237	0.000	0.000	0.000	0.000	26.182	261.823	261.823
299	12.250	40.190	-12.250	-40.190	316.012	2.531	19.570	0.801	9	6	10	7	6	6	124.097	2.397	1.485	0.911	29.207	0.838	60.548	50.768	53.731	45.052	211.224	0.807	313.616	-0.001	-0.001	211.426	30.215	212.426	1.551	3.584	93.976	44.050	-0.237	0.000	0.000	0.000	0.000	25.384	253.839	253.839
300	12.300	40.354	-12.300	-40.354	303.838	2.532	20.430	0.833	9	6	10	7	6	6	124.097	2.407	1.490	0.917	29.371	0.837	58.215	48.729	52.086	43.598	202.328	0.840	301.432	-0.001	-0.001	202.515	29.047	203.515	1.576	3.970	92.801	43.854	-0.237	0.000	0.000	0.000	0.000	24.365	243.645	243.645
301	12.350	40.518	-12.350	-40.518	300.190	2.462	25.550	0.820	9	6	10	7	6	6	124.097	2.417	1.495	0.922	29.535	0.836	57.516	48.062	51.446	42.990	199.196	0.827	297.773	-0.000	-0.000	199.279	28.682	200.279	1.575	3.957	92.407	43.789	-0.234	0.000	0.000	0.000	0.000	24.031	240.312	240.312
302	12.400	40.682	-12.400	-40.682	283.562	2.452	27.630	0.865	9	6	10	7	6	6	124.097	2.427	1.501	0.927	29.699	0.834	54.331	45.324	49.155	41.006	187.433	0.872	281.136	-0.000	-0.000	187.475	27.083	188.475	1.609	4.514	90.725	43.508	-0.233	0.000	0.000	0.000	0.000	22.662	226.619	226.619
303	12.450	40.846	-12.450	-40.846	262.492	2.328	24.310	0.887	9	6	10	7	6	6	124.097	2.438	1.506	0.932	29.863	0.833	50.293	41.885	45.994	38.305	172.795	0.895	260.055	-0.001	-0.001	172.910	25.074	173.910	1.641	5.056	88.463	43.131	-0.228	0.000	0.000	0.000	0.000	20.943	209.427	209.427
304	12.500	41.010	-12.500	-41.010	239.776	2.079	28.160	0.867	9	6	9	6	6	6	124.097	2.448	1.511	0.937	30.027	0.831	45.941	38.196	42.324	35.189	157.167	0.876	237.329	-0.000	-0.000	144.452	21.182	145.452	1.672	5.600	83.519	42.307	-0.204	1.954	433.905	0.000	0.000	0.000	17.624	176.242	176.242
305	12.550	41.174	-12.550	-41.174	227.668	1.872	26.940	0.822	9	6	9	6	6	6	124.097	2.458	1.516	0.942	30.192	0.830	43.621	36.207	40.201	33.368	148.644	0.831	225.211	-0.000	-0.000	148.711	21.730	149.711	1.684	5.642	82.435	42.207	-0.204	1.962	446.759	0.000	0.000	0.000	18.104	181.036	181.036
306	12.600	41.338	-12.600	-41.338	222.010	1.822	28.800	0.821	9	6	9	6	6	6	124.097	2.468	1.521	0.947	30.356	0.829	42.537	35.248	39.309	32.574	144.421	0.830	219.543	-0.000	-0.000	144.452	21.182	145.452	1.672	5.600	83.519	42.307	-0.204	1.954	433.905	0.000	0.000	0.000	17.624	176.242	176.242
307	12.650	41.502	-12.650	-41.502	231.381	2.035	33.730	0.880	9	6	9	6	6	6	124.097	2.478	1.526	0.952	30.520	0.827	44.333	36.675	41.082	33.986	150.079	0.889	228.903	0.000	0.000	150.013	22.065	151.013	1.680	5.747	84.656	42.497	-0.214	1.970	455.907	0.000	0.000	0.000	18.338	183.376	183.376
308	12.700	41.666	-12.700	-41.666	242.274	2.075	31.110	0.856	9	6	9	6	6	6	124.097	2.488	1.531	0.958	30.684	0.826	46.420	38.338	42.694	35.262	156.695	0.865	239.787	0.000	0.000	156.686	23.117	157.686	1.658	5.351	85.927	42.709	-0.216	2.015	488.374	0.000	0.000	0.000	19.169	191.692	191.692
309	12.750	41.830	-12.750	-41.830	282.259	1.707	22.200	0.605	10	6	10	7	6	6	127.279	2.499	1.536	0.963	30.848	0.825	45.067	37.159	47.303	39.002	182.200	0.610	279.761	-0.001	-0.001	182.375	26.974	183.375	1.506	2.928	90.257	43.430	-0.198	0.000	0.000	0.000	0.000	22.295	222.951	222.951
310	12.800	41.994	-12.800	-41.994	274.134	1.696	0.660	0.619	9	6	10	7	6	6	124.097	2.509	1.541	0.968	31.012	0.823	52.524	43.234	48.191	40.021	176.306	0.624	272.621	-0.000	-0.000	176.921	26.260	177.921	1.524	3.169	89.372	43.283	-0.197	0.000	0.000	0.000	0.000	21.617	216.169	216.169
311	12.850	42.158	-12.850	-42.158	245.538	1.611	6.080	0.656	9	6	9	6	6	6	124.097	2.519	1.546	0.973	31.176	0.822	47.045	38.661	42.106	34.601	157.222	0.663	243.020	-0.003	-0.003	157.729	23.504	158.729	1.577	3.986	86.167	42.749	-0.192	2.029	498.380	0.000	0.000	0.000	19.330	193.303	193.303
312	12.900	42.322	-12.900	-42.322	235.298	1.069	22.030	0.454	9	6	9	6	6	6	124.097	2.529	1.551	0.978	31.341	0.820	45.083	36.988	39.246	32.199	150.099	0.459	232.769	-0.001	-0.001	150.286	22.476	151.286	1.492	2.719	84.899	42.537	-0.156	1.978	465.553	0.000	0.000	0.000	18.494	184.938	184.938
313	12.950	42.486	-12.950	-42.486	212.101	0.954	9.760	0.450	9	6	9	6	6	6	124.097	2.540	1.556	0.983	31.505	0.819	40.639	33.287	35.780	29.307	134.695	0.455	209.562	-0.003	-0.003	135.131	20.290	136.131	1.527	3.221	81.878	42.034	-0.146	1.962	416.310	0.000	0.000	0.000	16.644	166.435	166.435
314	13.000	42.650	-13.000	-42.650	184.373	0.627	11.630	0.340	9	6	9	6	6	6	124.097	2.550	1.562	0.988	31.669	0.818	35.326	28.888	30.970	25.327	116.488	0.345	181.824	-0.003	-0.003	116.888	17.628	117.888	1.514	3.030	77.815	41.357	-0.110	2.038	375.877	0.000	0.000	0.000	14.444	144.442	144.442
315	13.050	42.814	-13.050	-42.814	190.971	0.683	19.310	0.424	9	6	9	6	6	6	124.097	2.560	1.567	0.993	31.816	0.816	33.842	28.181	29.955	24.824	108.411	0.402	168.412	-0.002	-0.002	101.410	15.363	102.410	1.501	3.878	76.700	41.116	-0.133	1.933	343.412	0.000	0.000	0.000	12.590	125.905	125.905
316	13.100	42.978	-13.100	-42.978	148.659	0.762	28.620	0.513	9	6	9	6	6	6	124.097	2.570	1.572	0.999	31.997	0.815	28.483	23.217	26.477	21.583	92.992	0.522	146.090	-0.001	-0.001	93.058	14.156	94.058	1.689	5.915	71.551	40.313	-0.124	2.189	325.614	0.000	0.000	0.000	11.609	116.087	116.087
317	13.150	43.143	-13.150	-43.143	138.834	0.976	31.100	0.703	9	6	9	6	6	6	124.097	2.580	1.577	1.004	32.161	0.814	26.601	21.648	25.647	20.872	86.453	0.716	136.255	-0.000	-0.000	86.474	13.207	87.474	1.794	7.984	69.545	39.978	-0.144	2.240	311.089	0.000	0.000	0.000	10.824	108.241	108.241
318	13.200	43.307	-13.200	-43.307	144.740	1.144	35.200	0.790	9	6	9	6	6	6	124.097	2.591	1.582	1.009	32.325	0.813	27.732	22.533	26.902	21.859	89.905	0.805	142.150	0.001	0.001	89.848	13.761	90.848	1.811	8.350	70.693	40.170	-0.158	2.212	320.320	0.000	0.000	0.000	11.267	112.665	112.665
319	13.250	43.471	-13.250	-43.471	169.009	1.020	33.410	0.604	9	6	9	6	6	6	124.097	2.601	1.587	1.014	32.490	0.811	32.382	26.269	30.067	24.391	104.913	0.613	166.409	0.000	0.000	104.894	16.091	105.894	1.686	5.852	75.091	40.903	-0.148	2.107	356.164	0.000	0.000	0.000	13.135	131.346	131.346
320	13.300	43.635	-13.300	-43.635	179.290	0.935	12.810	0.522	9	6	9	6	6	6	124.097	2.611	1.592	1.019	32.654	0.810	34.252	27.823	31.276	25.332	111.034	0.523	176.680	-0.003	-0.004	111.423	17.138	112.423	1.628	4.248	76.738	41.177	-0.141	2.168	370.846	0.000	0.000	0.000	13.911	139.115	139.115
321	13.350	43.799	-13.350	-43.799	180.646	0.898	17.030	0.497	9	6	9	6	6	6	124.097	2.621	1.597	1.024	32.818	0.809	34.612	27.989	31.364	25.362	111.526	0.504	178.026	-0.003	-0.003	111.834	17.255	112.834	1.614	4.591	76.909	41.206	-0.138	2.064	373.046	0.000	0.000	0.000	13.994	139.945	139.945
322	13.400	43.963	-13.400	-43.963	170.793	0.962	29.240	0.563	9	6	9	6	6	6	124.097	2.631	1.602	1.029	32.982	0.807	32.724	26.420	30.179	24.366	105.013	0.572	168.162	-0.001	-0.001	105.086	16.274	106.086	1.666	5.493	75.255	40.930	-0.143	2.105	359.646	0.000	0.000	0.000	13.210	132.102	132.102
323	13.450	44.127	-13.450	-44.127	182.053	1.087	38.990	0.597	9	6	9	6	6	6	124.097	2.641	1.607	1.034	33.146	0.806	34.881	28.118	32.094	25.871	111.687	0.606	179.413	0.001	0.001	111.573	17.324	112.573	1.659	5.370	77.040	41.228	-0.153	2.063	375.643	0.000	0.000	0.000	14.059	140.590	140.590
324	13.500	44.291	-13.500	-44.291	186.433	1.510	34.120	0.810	9	6	9	6	6	6	124.097	2.652	1.612	1.039	33.310	0.805	35.721	28.749	33.736	27.152	114.048	0.822	183.782	0.000	0.000	114.031	17.758	115.031	1.735	6.788	77.677	41.334	-0.182	2.048	381.993	0.000	0.000	0.000	14.375	143.746	143.746
325	13.550	44.455	-13.550	-44.455	152.293	1.951	30.960	1.281	8	6	9	6	5	6	120.915	2.662	1.617	1.045	33.474	0.804	36.474	29.311	29.630	23.811	92.573	1.304	149.633	-0.001	-0.001	92.621	14.497	93.621	1.935	11.261	71.835	40.360	-0.206	2.190	333.712	0.000	0.000	0.000	11.724	117.244	117.244
326	13.600	44.619	-13.600	-44.619	141.498	1.917	57.290	1.355	8	5	9	6	5	5	120.915	2.672	1.622	1.050	33.639	0.802	33.889	27.193	27.958	22.434	85.633	1.381	138.827	0.005	0.005	85.178	13.384	86.178	1.976	12.310	69.685	40.002	-0.204	2.244	317.706	0.000	0.000	0.000	10.877	108.772	108.772
327	13.650	44.783	-13.650	-44.783	192.219	2.063	70.280	1.073	9	6	9	6	5	6	124.097	2.682	1.627	1.055	33.803	0.801	36.829	29.508	35.706	28.607	116.560	1.088	189.538	0.006	0.006	115.859	18.204	116.859	1.809	8.314	78.423	41.458	-0.209	2.033	390.895	0.000	0.000	0.000	14.754	147.538	147.538
328	13.700	44.947	-13.700	-44.947	225.747	2.859	28.410	1.266	9	6	9	6	5	6	124.097	2.692	1.632	1.060	33.967	0.800	43.253	34.601	41.968	33.573	136.747	1.282	223.057	-0.001	-0.001	136.853	21.542	137.853	1.811	8.364	82.987	42.219	-0.242	1.963	443.369	0.000	0.000	0.000	17.300	173.004	173.004
329	13.750	45.111	-13.750	-45.111	234.031	3.279	30.570	1.401	8	6	9	6	5	5	120.915	2.702	1.637	1.065	34.131	0.799	50.050	41.771	43.859	33.033	141.392	1.117	231.330	-0.000	-0.000	141.460	22.329	142.460	1.854	8.853	83.977	42.384	-0.257	1.968	460.803	0.000	0.000	0.000	17.908	179.082	179.082
330	13.800	45.275	-13.800	-45.275	277.803	3.768	88.520	1.356	9	6	10	6	5	5	124.097	2.712	1.642	1.070	34.295	0.798	53.227	42.451	50.965	40.648	167.635	1.370	275.092	0.006	0.006	166.603	26.349	167.603	1.774	7.576	88.848	43.195	-0.269	0.000	0.000	0.000	0.000	21.226	212.257	212.257
331	13.850	45.439	-13.850	-45.439	372.528	3.371	57.320	0.905	9	6	10	7	6	6	124.097	2.722	1.647	1.075	34.459	0.796	71.376	56.

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
113	2.950	9.678	-2.950	-9.678	13.576	0.646	-13.480	4.758	3	3	6	5	3	111.369	0.552	0.552	0.000	0.000	1.376	13.006	17.896	3.999	7.264	23.626	4.960	13.025	-0.031	-0.032	24.389	1.341	25.389	2.840	48.330	0.000	0.000	0.000	0.000	0.000	0.869	0.000	9.213	1.790	17.896	23.626
114	3.000	9.842	-3.000	-9.842	18.046	0.792	-10.300	4.389	3	4	6	5	3	111.369	0.561	0.561	0.000	0.000	1.365	17.288	23.594	4.989	9.004	31.201	4.530	17.485	-0.018	-0.018	31.774	1.760	32.774	2.725	41.775	0.000	0.000	32.701	-0.288	0.000	0.000	0.000	0.000	0.000	0.000	2.359	23.594	31.201
115	3.050	10.006	-3.050	-10.006	21.638	0.939	-11.460	4.339	4	4	7	6	3	114.551	0.570	0.570	0.000	0.000	1.354	13.820	18.707	5.802	10.352	36.984	4.457	21.069	-0.017	-0.017	37.612	2.107	38.612	2.667	38.704	30.850	33.529	-0.310	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.806	28.060	36.984
116	3.100	10.170	-3.100	-10.170	18.794	1.273	-13.720	6.773	3	3	6	5	8	111.369	0.579	0.579	0.000	0.000	1.343	18.005	24.176	5.584	9.758	31.463	6.989	18.215	-0.023	-0.024	32.203	1.842	33.203	2.855	49.239	0.000	0.000	0.000	0.000	0.000	0.000	1.215	0.000	10.000	2.418	24.176	31.463
117	3.150	10.335	-3.150	-10.335	16.027	1.349	-13.340	8.417	0	3	6	5	8	118.624	0.589	0.589	0.000	0.000	1.332	15.354	20.450	5.128	8.764	26.239	8.738	15.438	-0.026	-0.027	26.947	1.575	27.947	2.980	57.126	0.000	0.000	0.000	0.000	0.000	0.000	1.030	0.000	10.000	2.045	20.450	26.239
118	3.200	10.499	-3.200	-10.499	14.341	1.998	-7.770	13.932	0	0	6	5	0	118.624	0.598	0.598	0.000	0.000	1.321	13.739	18.151	0.000	0.000	22.978	14.538	13.743	-0.017	-0.018	23.384	1.397	24.384	3.182	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.815	18.151	22.978
119	3.250	10.663	-3.250	-10.663	50.313	1.323	5.290	2.630	6	5	8	6	4	114.551	0.608	0.608	0.000	0.000	1.311	19.280	25.269	11.562	15.153	81.798	2.662	49.705	0.003	0.003	81.526	4.804	82.526	2.344	24.181	54.110	37.406	-0.286	2.611	131.398	0.000	0.000	0.000	0.000	6.317	63.173	63.173
120	3.300	10.827	-3.300	-10.827	138.076	0.727	-15.060	0.527	9	6	9	7	6	124.097	0.618	0.618	0.000	0.000	1.300	26.455	34.398	23.499	30.554	222.624	0.529	137.459	-0.003	-0.003	223.385	13.273	224.385	1.554	3.628	82.818	42.191	-0.203	1.879	259.526	0.000	0.000	0.000	0.000	17.199	171.989	171.989
121	3.350	10.991	-3.350	-10.991	170.634	2.590	-10.570	1.518	8	6	9	7	8	120.915	0.628	0.628	0.000	0.000	1.290	40.867	52.709	31.724	40.917	270.929	1.523	170.007	-0.002	-0.002	271.455	16.378	272.455	1.811	8.368	88.656	43.163	-0.331	0.000	0.000	0.000	0.000	0.000	0.000	21.084	210.835	210.835
122	3.400	11.155	-3.400	-11.155	72.320	2.905	-3.210	4.017	5	9	8	6	8	114.551	0.637	0.633	0.005	0.154	1.285	34.641	44.508	0.000	0.000	113.362	4.053	71.683	-0.001	-0.001	113.528	6.938	114.528	2.378	0.000	63.940	39.044	-0.449	2.241	162.148	0.000	0.000	0.000	0.000	8.902	89.016	89.016
123	3.450	11.319	-3.450	-11.319	44.143	2.806	32.460	6.357	3	9	7	6	8	111.369	0.647	0.637	0.010	0.318	1.281	42.289	54.156	0.000	0.000	68.339	6.451	43.496	0.023	0.023	66.762	4.132	67.762	2.606	0.000	49.696	36.670	-0.770	2.823	124.666	0.000	0.000	0.000	0.000	5.416	54.156	68.339
124	3.500	11.483	-3.500	-11.483	48.005	2.567	104.960	5.347	3	9	7	6	8	111.369	0.656	0.641	0.015	0.483	1.277	45.989	58.710	0.000	0.000	73.927	5.421	47.350	0.068	0.069	68.835	4.285	69.835	2.591	0.000	52.010	37.056	-0.540	2.709	130.084	0.000	0.000	0.000	0.000	5.871	58.710	58.710
125	3.550	11.647	-3.550	-11.647	55.347	2.511	87.690	4.537	4	9	7	6	8	114.551	0.665	0.645	0.020	0.647	1.273	35.349	44.981	0.000	0.000	84.827	4.592	54.683	0.049	0.050	80.612	5.040	81.612	2.497	0.000	55.997	37.720	-0.454	2.528	139.954	0.000	0.000	0.000	0.000	6.747	67.472	67.472
126	3.600	11.811	-3.600	-11.811	46.070	2.694	-12.810	5.848	3	9	8	6	8	111.369	0.674	0.649	0.025	0.811	1.268	44.135	55.982	0.000	0.000	69.971	5.934	45.396	-0.009	-0.009	70.626	4.452	71.626	2.607	0.000	50.647	36.829	-0.645	2.775	127.912	0.000	0.000	0.000	0.000	5.598	55.982	61.568
127	3.650	11.975	-3.650	-11.975	35.662	2.582	-18.840	7.240	3	3	7	6	8	111.369	0.683	0.653	0.030	0.975	1.265	34.165	43.202	9.828	15.414	53.584	7.382	34.979	-0.017	-0.018	54.531	3.473	55.531	2.719	41.456	0.000	0.000	0.000	0.000	0.000	0.000	2.333	0.000	10.000	4.320	43.202	53.584
128	3.700	12.139	-3.700	-12.139	29.510	2.323	-15.960	7.872	3	3	7	6	8	111.369	0.693	0.657	0.036	1.139	1.261	28.271	35.640	8.519	13.221	43.876	8.061	28.818	-0.018	-0.019	44.688	2.875	45.688	2.804	46.223	0.000	0.000	0.000	0.000	0.000	0.000	1.922	0.000	10.000	3.564	35.640	43.876
129	3.750	12.303	-3.750	-12.303	71.911	2.235	-9.440	3.108	6	5	8	6	4	114.551	0.702	0.661	0.041	1.303	1.257	27.556	34.630	16.219	20.382	107.737	3.139	71.209	-0.005	-0.005	108.245	6.917	109.245	2.301	22.570	63.143	38.911	-0.357	2.265	162.961	0.000	0.000	0.000	0.000	8.658	86.575	86.575
130	3.800	12.467	-3.800	-12.467	161.774	2.335	-5.820	1.443	8	6	9	7	8	120.915	0.712	0.666	0.046	1.467	1.252	38.745	48.524	30.148	37.757	242.021	1.450	161.062	-0.001	-0.001	242.363	15.515	243.363	1.818	8.510	86.285	42.768	-0.314	1.976	319.765	0.000	0.000	0.000	0.000	19.410	194.097	194.097
131	3.850	12.631	-3.850	-12.631	162.153	2.159	-10.810	1.331	8	6	9	7	8	120.915	0.721	0.671	0.051	1.632	1.248	38.836	48.464	29.937	37.359	240.839	1.337	161.431	-0.002	-0.002	241.419	15.567	242.419	1.792	7.949	86.249	42.762	-0.303	1.974	320.155	0.000	0.000	0.000	0.000	19.385	193.855	193.855
132	3.900	12.795	-3.900	-12.795	147.154	1.959	-12.180	1.331	8	6	9	7	8	120.915	0.731	0.675	0.056	1.796	1.243	35.243	43.824	27.454	34.139	216.896	1.338	146.423	-0.003	-0.003	217.542	14.134	218.542	1.821	8.578	83.365	42.282	-0.293	1.882	277.111	0.000	0.000	0.000	0.000	17.530	175.298	175.298
133	3.950	12.959	-3.950	-12.959	138.425	1.397	-12.080	1.009	9	6	9	7	6	124.097	0.741	0.680	0.061	1.960	1.239	26.522	32.860	25.218	31.245	202.473	1.015	137.683	-0.003	-0.003	203.117	13.297	204.117	1.754	7.172	81.508	41.972	-0.256	1.881	260.464	0.000	0.000	0.000	0.000	16.430	164.300	164.300
134	4.000	13.123	-4.000	-13.123	130.432	1.691	-12.470	1.296	8	6	9	7	5	120.915	0.751	0.685	0.066	2.124	1.235	31.239	38.564	24.598	30.366	189.333	1.304	129.681	-0.003	-0.004	189.998	12.533	190.998	1.851	9.243	79.699	41.671	-0.277	1.900	247.891	0.000	0.000	0.000	0.000	15.426	154.256	154.256
135	4.050	13.287	-4.050	-13.287	121.021	2.118	-9.450	1.750	8	6	9	6	8	120.915	0.761	0.690	0.071	2.288	1.230	28.985	35.657	23.854	29.346	174.357	1.761	120.260	-0.003	-0.003	174.888	11.622	175.888	1.970	12.144	77.453	41.296	-0.306	1.936	234.444	0.000	0.000	0.000	0.000	14.263	142.627	142.627
136	4.100	13.451	-4.100	-13.451	110.067	2.318	-11.690	2.106	7	5	9	6	8	117.733	0.771	0.695	0.077	2.452	1.226	35.148	43.094	22.452	27.528	157.397	2.121	109.296	-0.004	-0.004	158.032	10.579	159.032	2.058	14.582	74.637	40.827	-0.323	1.990	219.146	0.000	0.000	0.000	0.000	12.928	129.281	129.281
137	4.150	13.615	-4.150	-13.615	84.676	2.651	-11.870	3.131	6	5	9	6	8	114.551	0.781	0.699	0.082	2.616	1.222	32.448	39.657	18.799	22.976	120.056	3.160	83.895	-0.005	-0.005	120.703	8.147	121.703	2.265	21.238	67.029	39.559	-0.373	2.157	182.708	0.000	0.000	0.000	0.000	9.914	99.144	99.144
138	4.200	13.779	-4.200	-13.779	65.705	2.879	-7.270	4.382	5	9	8	6	8	114.551	0.790	0.703	0.087	2.781	1.218	31.473	38.348	0.000	0.000	92.329	4.435	64.915	-0.005	-0.005	92.775	6.316	93.775	2.449	0.000	59.671	38.333	-0.459	2.382	156.583	0.000	0.000	0.000	0.000	7.670	76.697	76.697
139	4.250	13.943	-4.250	-13.943	55.653	3.394	-5.890	6.098	3	9	8	6	8	111.369	0.799	0.708	0.092	2.945	1.215	53.316	64.773	0.000	0.000	77.563	6.187	54.854	-0.005	-0.005	77.953	5.349	78.953	2.586	0.000	54.827	37.525	-0.735	2.578	143.556	0.000	0.000	0.000	0.000	6.477	64.773	70.018
140	4.300	14.107	-4.300	-14.107	48.917	3.016	-5.220	6.165	3	9	8	6	8	111.369	0.809	0.712	0.097	3.109	1.211	46.863	56.773	0.000	0.000	67.642	6.269	48.109	-0.005	-0.005	68.007	4.702	69.007	2.627	0.000	51.049	36.896	-0.720	2.755	134.845	0.000	0.000	0.000	0.000	5.677	56.773	61.300
141	4.350	14.271	-4.350	-14.271	55.348	2.221	-3.520	4.013	5	4	8	6	4	114.551	0.818	0.716	0.102	3.273	1.208	26.512	32.025	13.491	16.296	76.226	4.073	54.531	-0.004	-0.004	76.522	5.313	77.522	2.473	29.491	54.505	37.472	-0.390	2.593	143.563	0.000	0.000	0.000	0.000	6.405	64.050	64.050
142	4.400	14.436	-4.400	-14.436	49.331	1.856	-7.810	3.762	5	4	8	6	4	114.551	0.827	0.720	0.107	3.437	1.204	23.630	28.459	12.110	14.585	67.400	3.826	48.504	-0.007	-0.007	67.887	4.749	68.887	2.488	30.152	51.121	36.908	-0.350	2.752	135.809	0.000	0.000	0.000	0.000	5.692	56.917	56.917
143	4.450	14.600	-4.450	-14.600	43.839	1.951	-1.690	4.450	4	4	8	6	3	114.551	0.837	0.724	0.112	3.601	1.201	27.999	33.621	11.240	13.497	59.402	4.537	43.003	-0.004	-0.004	59.631	4.205	60.631	2.578	34.289	47.654	36.330	-0.396	2.928	128.430	0.000	0.000	0.000	0.000	5.043	50.431	50.431
144	4.500	14.764	-4.500	-14.764	43.166	2.742	73.100	6.352	3	3	7	6	8	111.369	0.846	0.728	0.118	3.765	1.197	41.353	49.515	11.492	16.153	58.127	6.479	42.321	0.050	0.051	55.155	3.917	56.155	2.653	37.983	0.000	0.000	0.000	0.000	0.000	2.823	0.271	10.000	4.952	49.515	58.127
145	4.550	14.928	-4.550	-14.928	49.206	3.136	82.610	6.373	3	9	7	6	8	111.369	0.855	0.732	0.123	3.929	1.194	47.139	56.288	0.000	0.000	66.046	6.486	48.351	0.050	0.051	62.691	4.467	63.691	2.618	0.000	50.803	36.855	-0.762	2.768	136.237	0.000	0.000	0.000	0.000	5.629	56.288	66.046
146	4.600	15.092	-4.600	-15.092	52.220	3.389	36.780	6.490	3	9	8	6	8	111.369	0.864	0.736	0.128	4.094	1.191	50.026	59.573	0.000	0.000	69.767	6.599	51.356	0.020	0.020	68.381	4.893	69.381	2.609	0.000	52.429	37.126	-0.828	2.689	140.459	0.000	0.000	0.000	0.000	5.957	59.573	69.767
147	4.650	15.256	-4.650	-15.256	51.660	3.351	-1.610	6.487	3	9	8	6	8	111.369	0.873	0.740	0.133	4.258	1.188	49.490	58.774	0.000	0.000	68.868	4.954	69.868	2.613	0.000	68.207	4.702	69.007	2.627	0.000	51.049	36.896	-0.720	2.755	134.845	0.000	0.000	0.000	0.000	5.877	58.774	68.621
148	4.700	15.420	-4.700	-15.420	43.748	2.966	-13.150	6.780	3	9	8	6	8	111.369	0.882	0.744	0.138	4.422	1.184	41.910	49.638	0.000	0.000	57.606	6.919	42.866	-0.013	-0.013	58.342	4.230	59.342	2.677	0.000	47.199	36.254	-0.905	2.952	129.209	0.000	0.000	0.000	0.000	4.964	49.638	57.606
149	4.750	15.584	-4.750	-15.584	46.476	2.544	7.360	5.474	3	4	8	6	8	111.369	0.892	0.748	0.143	4.580	1.181	44.525	52.592	12.125	15.309	60.815	5.581	45.585	0.002	0.002	60.815	4.430	61.815	2.613	35.988	48.856	36.530	-0.540	2.866	133.249	0.000	0.000	0.000	0.000	5.259	52.592	56.215
150	4.800	15.748	-4.800	-15.748	50.882	2.713	-1.330	5.332	3	9	8	6	8	111.369	0.901	0.752	0.148	4.750	1.178	48.745	57.424	0.000	0.000	66.451	5.428	49.981	-0.004	-0.004	66.703	4.878	67.703	2.598	0.000	51.375	36.950	-0.534	2.739	139.445	0.000	0.000	0.000	0.000	5.742	57.424	57.424
151	4.850	15.912	-4.850	-15.912	43.262	2.620	30.700	6.056	3	3	7	6	8	111.369	0.910	0.756	0.153	4.914	1.175	41.445	48.694	11.488	15.526	56.009	6.186	42.352	0.019	0.019	54.944	4.053	55.944	2.648	37.734	0.000	0.000	0.000	0.000	0.000	2.825	0.101	10.000	4.869	48.694	56.009
152	4.900	16.076	-4.900	-16.076	40.931	2.704	27.430	6.606	3	3	7	6	8	111.369	0.919	0.760	0.158	5.078	1.172	39.212	45.949	11.136	14.948	52.636	6.758	40.013	0.017	0.017	51.718	3.839	52.718	2.694	40.157	0.000	0.000	0.000	0.000	0.000	2.669	0.087	10.000	4.595	45.949	52.636
153	4.950	16.240	-4.950	-16.240	41.515	1.714	45.600	4.129	5	4	7	6	4	114.551	0.928	0.765	0.164	5.243	1.169	19.886	23.239	10.655	12.452	53.101	4.223	40.587	0.030	0.031	51.453	3.841	52.453	2.580	34.388	45.314	35.940	-0.342	3.053	126.798	0.000	0.000	0.000	0.000	4.648	46.478	46.478
154	5.000	16.404	-5.000	-16.404	40.853	2.215	6.900	5.422	3	4	8	6	8	111.369	0.938	0.769	0.169	5.407	1.165	39.137	45.614	10.772	14.296	51.942	5.549	39.916	0.001	0.001	51.881	3.893	52.881	2.634	37.027	44.776	35.850	-0.499	3.082	125.968	0.000	0.000	0.000	0.000	4.561	45.614	51.942
155	5.050	16.568	-5.050	-16.568	42.655	2.444	0.830	5.730	3	4	8	6	8	111.369	0.947	0.773	0.174	5.571	1.162	40.864	47.502	11.285	14.910	53.993	5.860	41.709	-0.003	-0.004	54.185	4.084	55.185	2.640	37.358	45.938	36.044	-0.564	3.019	128.846	0.000	0.000	0.000	0.000	4.750	47.502	53.993
156	5.100	16.732	-5.100	-16.732	39.995	2.661	-2.460	6.653	3	3	8	6	8	111.369	0.956	0.777	0.179	5.735	1.159	38.315	44.424	10.972	14.397	50.276	6.816	39.039	-0.006	-0.007	50.605	3.839	51.605	2.703	40.998	0.000	0.000	0.000	0.000	0.000	2.604	0.000	10.000	4.442	44.424	50.276
157	5.150	16.896	-5.150	-16.896	35.997	2.374	25.200	6.595	3	3	7	6	8	111.369	0.965	0.781	0.184	5.899	1.156	34.485	39.881	10.037	13.064	44.884	6.777	35.033	0.017	0.017	44.112	3.373	45.112	2.741	42.654	0.000	0.000	0.000	0.000	0.000	2.336	0.075	10.000	3.988	39.881	44.884
158	5.200	17.060	-5.200	-17.060	35.025	2.152	-0.770	6.144	3	3	7	6	8	111.369	0.973	0.785	0.189	6.063	1.153	33.554	39.704	9.697	12.547	43.404	6.320	34.052	-0.006	-0.006	43.676	3.358	44.676	2.728	41.952	0.000	0.000	0.000	0.000	0.000	2.271	0.000	10.000	3.870	38.704	43.404
159	5.250	17.224	-5.250	-17.224	34.711	1.908	45.040	5.497	3	3	7	6	3	111.369	0.983	0.789	0.194	6.227	1.151	33.253	38.260	9.455	12.162	42.773	5.657	33.728	0.035	0.036	41.237	3.191	42.237	2.697	40.281	0.000	0.000	0.000	0.000	0.000	2.249	0.152	10.000	3.826	38.260	42.773
160	5.300	17.388	-5.300	-17.388	33.042	1.870	99.690	5.659	3	3	6	5	3	111.369	0.992	0.793	0.199	6.392	1.148	31.655	36.328	9.128	11.661	40.440	5.835	32.050	0.088	0.091	36.765	2.867	37.765	2.723	41.698	0.000	0.000	0.000	0.000	0.000	2.138	0.364	10.000	3.633	36.328	40.440
161	5.350	17.552	-5.350	-17.552	37.786	1.706	164.420	4.515	4	4	6	5	3	114.551	1.002	0.797	0.205	6.556	1.145	24.133	27.624	9.850	12.564	46.172	4.638	36.785	0.130	0.134	39.987	3.128	40.987	2.611	35.907	42.022	35.391	-0.337	3.237	122.350	0.000	0.000	0.000	0.000	4.144	41.435	46.172
162	5.400	17.716	-5.400	-17.716	52.339	1.769	-1.830	3.380	5	4	8	6	4	114.551	1.011	0.801	0.210	6.720	1.142	25.070	28.620	12.642	14.432	64.082	3.446	51.328	-0.005	-0.005	64.415	5.020	65.415	2.454	28.654	51.283	36.935	-0.312	2.748	143.883	0.000	0.000	0.000	0.000	5.724	57.240	57.240
163	5.450	17.880	-5.450	-17.880	60.452	1.533	-12.460	2.536	6	5	8	6	4	114.551	1.020	0.806	0.215	6.884	1.139	23.165	26.375	13.752	15.658	73.806	2.579	59.432	-0.010	-0.010	74.556	5.829	75.556	2.321	23.309	55.338	37.610	-0.270	2.561	154.866	0.000	0.000	0.000	0.000	6.594	65.937	65.937
164	5.500	18.044	-5.500	-18.044	72.449	1.339	-16.130	1.848	7	5	8	6	5	117.733	1.030	0.810	0.220	7.048	1.135	23.135	26.269	15.451	17.544	88.211	1.875	71.420	-0.010	-0.010	89.104	6.989	90.104	2.169	17.972	60.449	38.462	-0.243	2.360	171.022	0.000	0.000	0.000	0.000	7.881	78.808	78.808
165	5.550	18.208	-5.550	-18.208	84.562	0.918	-17.330	1.086	8	6	9	6	5	120.915	1.040	0.815	0.225	7.212	1.132	20.253	22.930	16.641	18.840	102.568	1.099	83.523	-0.009	-0.009	103.508	8.153	104.508	1.965	12.032	64.798	39.187	-0.200	2.222	188.012	0.000	0.000	0.000	0.000	9.172	91.719	91.719
166	5.600	18.372	-5.600	-18.372	84.842	0.969	-15.710	1.142	8	6	9	6	5	120.915	1.050	0.819	0.230	7.376	1.129	20.320	22.938	16.786	18.949	102.297	1.156	83.793	-0.008	-0.009	103.177	8.175	104.177	1.980	12.402	64.808	39.189	-0.204	2.223	188.687	0.000	0.000	0.000	0.000	9.175	91.753	91.753
167	5.650	18.537	-5.650	-18.537	66.961	1.442	-12.660	2.153	7	5	8	6	5	117.733	1.059	0.824	0.235	7.541	1.126	21.383	24.070	14.728	16.579	80.000	2.188	65.902	-0.009	-0.010	80.765	6.453	81.765	2.243	20.463	57.943	38.045	-0.254	2.456	164.543	0.000	0.000	0.000	0.000	7.221	72.210	72.210
168	5.700	18.701	-5.700	-18.701	54.130	1.536	1.540	2.838	6	5	8	6	4	114.551	1.069	0.829	0.240	7.705	1.123	20.742	23.287	12.726	14.287	64.069	2.895	53.061	-0.004	-0.004	64.301	5.181	65.301	2.395	26.196	51.769	37.016	-0.273	2.730	147.850	0.000	0.000	0.000	0.000	5.822	58.218	58.218
169	5.750	18.865	-5.750	-18.865	60.470	1.432	51.230	2.368	6	5	8	6	5	114.551	1.078	0.833	0.246	7.869	1.120	23.172	25.948	13.664	15.301	71.345	2.411	59.392	0.022	0.023	69.719	5.640	70.719	2.306	22.730	54.870	37.532	-0.252	2.587	156.506	0.000	0.000	0.000	0.000	6.487	64.869	64.869
170	5.800	19.029	-5.800	-19.029	55.268	1.869	4.530	3.382	6	4	8	6	4	114.551	1.088	0.837	0.251	8.033	1.117	21.179	23.655	13.291	14.845	64.753	3.450	54.181	-0.002	-0.002	64.884	5.281	65.884	2.444	28.245	52.218	37.091	-0.313	2.710	149.866	0.000	0.000	0.000	0.000	5.914	59.138	59.138
171	5.850	19.193	-5.850	-19.193	49.003	1.819	-2.680	3.712	5	4	8	6	4	114.551	1.097	0.841	0.256	8.197	1.114	23.473	26.150	12.162	13.550	56.963	3.797	47.907	-0.007	-0.007	57.367	4.703	58.367	2.511	31.182	48.697	36.504	-0.323	2.887	141.546	0.000	0.000	0.000	0.000	5.230	52.301	52.301
172	5.900	19.357	-5.900	-19.357	46.753	2.276	2.070	4.868	4	4	8	6	3	114.551	1.107	0.846	0.261	8.361	1.111	29.860	33.182	12.116	14.044	54.002	4.986

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
225	8.550	28.051	-8.550	-28.051	20.263	0.955	66.080	4.713	3	3	6	5	3	111.369	1.596	1.064	0.532	17.061	0.991	19.411	19.232	6.348	5.741	17.554	5.116	18.667	0.076	0.082	16.114	1.744	17.114	2.945	54.868	0.000	0.000	0.000	0.000	0.000	1.245	0.191	5.786	1.923	19.232	17.554
226	8.600	28.215	-8.600	-28.215	28.520	1.065	149.050	3.734	5	4	5	5	3	114.555	1.606	1.068	0.538	17.225	0.980	13.661	13.509	8.007	7.389	25.212	3.957	26.916	0.144	0.153	21.357	2.287	22.357	2.753	43.354	0.000	33.348	-0.187	0.000	0.000	0.000	0.000	0.000	0.000	2.702	27.017	25.212
227	8.650	28.379	-8.650	-28.379	56.531	0.886	1.810	1.567	7	5	8	6	5	117.733	1.615	1.072	0.543	17.389	0.987	18.052	17.814	12.485	12.320	51.230	1.613	54.917	-0.009	-0.009	51.683	5.410	52.683	5.252	20.799	49.315	36.607	-0.169	2.908	164.448	0.000	0.000	0.000	0.000	5.344	53.442	53.442
228	8.700	28.543	-8.700	-28.543	71.521	0.664	1.700	0.928	8	6	8	6	5	120.915	1.625	1.077	0.548	17.553	0.985	17.129	16.866	14.437	14.215	64.921	0.950	69.896	-0.007	-0.007	65.380	6.847	66.380	2.032	13.817	55.995	37.720	-0.143	2.590	185.291	0.000	0.000	0.000	0.000	6.747	67.465	67.465
229	8.750	28.707	-8.750	-28.707	73.011	0.620	9.770	0.849	8	6	8	6	5	120.915	1.635	1.082	0.553	17.717	0.982	17.486	17.180	14.572	14.316	66.002	0.869	71.377	-0.003	-0.003	66.231	6.965	67.231	2.002	13.012	56.522	37.808	-0.136	2.568	187.579	0.000	0.000	0.000	0.000	6.872	68.718	68.718
230	8.800	28.871	-8.800	-28.871	59.567	0.670	14.010	1.125	7	5	8	6	5	117.733	1.645	1.087	0.558	17.881	0.980	19.022	18.648	12.593	12.346	53.332	1.157	57.924	-0.002	-0.002	53.443	5.665	54.443	2.148	17.288	50.627	36.825	-0.141	2.844	169.475	0.000	0.000	0.000	0.000	5.594	55.944	55.944
231	8.850	29.035	-8.850	-29.035	46.891	0.463	4.950	0.987	7	5	8	6	5	117.733	1.654	1.091	0.563	18.045	0.978	14.974	14.649	10.140	9.920	41.478	1.023	45.237	-0.009	-0.009	41.852	4.477	42.852	2.203	19.080	43.709	35.672	-0.107	3.215	150.803	0.000	0.000	0.000	0.000	4.395	43.947	43.947
232	8.900	29.199	-8.900	-29.199	37.901	0.721	25.750	1.902	6	5	7	6	5	114.551	1.664	1.095	0.568	18.210	0.976	14.524	14.180	9.132	8.916	33.093	1.990	36.238	0.006	0.007	32.877	3.554	33.877	2.448	28.429	37.550	34.646	-0.143	3.563	135.082	0.000	0.000	0.000	0.000	3.545	35.450	35.450
233	8.950	29.363	-8.950	-29.363	33.121	1.872	128.310	5.652	3	3	6	5	3	111.369	1.673	1.100	0.573	18.374	0.974	31.730	30.921	9.725	8.769	28.611	5.953	31.449	0.104	0.109	25.489	2.789	26.489	2.834	47.996	0.000	0.000	0.000	0.000	0.000	2.097	0.429	10.000	3.092	30.921	28.611
234	9.000	29.527	-9.000	-29.527	58.668	1.577	268.780	2.688	6	5	6	5	4	114.551	1.682	1.104	0.578	18.538	0.973	22.482	21.867	13.830	13.452	51.649	2.767	56.986	0.133	0.137	44.570	4.817	45.570	2.401	26.438	49.966	36.715	-0.220	2.881	169.114	0.000	0.000	0.000	0.000	5.467	54.668	54.668
235	9.050	29.691	-9.050	-29.691	120.901	1.272	-4.590	1.052	8	6	9	6	5	120.915	1.692	1.108	0.584	18.702	0.971	28.956	28.107	23.129	22.451	107.603	1.067	119.210	-0.006	-0.006	108.259	11.596	109.259	1.890	10.151	70.633	40.160	-0.201	2.130	257.649	0.000	0.000	0.000	0.000	11.243	112.427	112.427
236	9.100	29.855	-9.100	-29.855	137.149	1.243	3.020	0.906	9	6	9	6	6	124.097	1.702	1.113	0.589	18.866	0.969	26.278	25.451	25.452	24.651	121.719	0.918	135.448	-0.004	-0.004	122.163	13.130	123.163	1.806	8.258	74.183	40.751	-0.198	2.052	281.584	0.000	0.000	0.000	0.000	12.725	127.253	127.253
237	9.150	30.019	-9.150	-30.019	144.524	1.281	18.330	0.886	9	6	9	6	6	124.097	1.712	1.118	0.594	19.030	0.966	27.691	26.759	26.603	25.707	127.757	0.897	142.813	-0.000	-0.000	127.776	13.791	128.776	1.783	7.771	75.620	40.991	-0.200	2.022	292.368	0.000	0.000	0.000	0.000	13.379	133.793	133.793
238	9.200	30.183	-9.200	-30.183	158.805	1.347	21.550	0.848	9	6	9	6	6	124.097	1.722	1.123	0.599	19.194	0.964	30.427	29.336	28.793	27.760	139.890	0.858	157.083	0.000	0.000	139.824	15.149	140.824	1.741	6.898	78.256	41.430	-0.204	1.968	312.718	0.000	0.000	0.000	0.000	14.668	146.681	146.681
239	9.250	30.347	-9.250	-30.347	161.761	1.433	20.920	0.886	9	6	9	6	6	124.097	1.733	1.128	0.604	19.358	0.962	30.993	29.815	29.404	28.286	141.874	0.895	160.029	0.000	0.000	141.830	15.434	142.830	1.748	7.044	78.720	41.507	-0.210	1.960	317.210	0.000	0.000	0.000	0.000	14.908	149.076	149.076
240	9.300	30.511	-9.300	-30.511	162.255	1.535	23.260	0.946	9	6	9	6	6	124.097	1.743	1.133	0.609	19.523	0.960	31.088	29.840	29.691	28.499	141.668	0.956	160.513	0.001	0.001	141.565	15.474	142.565	1.767	7.428	78.744	41.511	-0.216	1.960	318.217	0.000	0.000	0.000	0.000	14.920	149.198	149.198
241	9.350	30.675	-9.350	-30.675	156.541	1.558	22.600	0.995	9	6	9	6	6	124.097	1.753	1.139	0.614	19.687	0.958	29.993	28.725	28.924	27.700	136.009	1.007	154.789	0.001	0.001	135.929	14.929	136.929	1.794	7.995	77.652	41.329	-0.217	1.983	310.471	0.000	0.000	0.000	0.000	14.362	143.623	143.623
242	9.400	30.840	-9.400	-30.840	140.117	1.622	20.300	1.158	8	6	9	6	5	120.915	1.763	1.143	0.619	19.851	0.956	33.558	32.069	26.660	25.477	121.044	1.172	138.355	0.000	0.000	121.032	13.362	122.032	1.875	9.803	74.413	40.790	-0.221	2.052	287.656	0.000	0.000	0.000	0.000	12.828	128.277	128.277
243	9.450	31.004	-9.450	-31.004	123.689	1.819	20.640	1.471	8	6	9	6	5	120.915	1.773	1.148	0.625	20.015	0.954	29.623	28.250	24.546	23.408	106.218	1.492	121.917	0.000	0.000	106.200	11.788	107.200	1.988	12.614	70.779	40.184	-0.234	2.134	264.046	0.000	0.000	0.000	0.000	11.300	113.000	113.000
244	9.500	31.168	-9.500	-31.168	98.050	2.206	22.470	2.250	7	5	9	6	5	117.733	1.783	1.153	0.630	20.179	0.952	31.311	29.799	21.107	20.088	83.532	2.292	96.268	0.001	0.001	83.470	9.326	84.470	2.192	18.714	64.062	39.064	-0.264	2.309	226.536	0.000	0.000	0.000	0.000	8.940	89.396	89.396
245	9.550	31.332	-9.550	-31.332	114.500	2.057	35.170	1.797	7	5	9	6	5	117.733	1.792	1.157	0.635	20.343	0.950	36.564	34.729	23.504	22.325	97.414	1.825	112.708	0.004	0.004	97.013	10.864	98.013	2.074	15.046	68.451	39.796	-0.249	2.191	250.952	0.000	0.000	0.000	0.000	10.419	104.188	104.188
246	9.600	31.496	-9.600	-31.496	135.161	1.947	35.430	1.441	8	6	9	6	5	120.915	1.802	1.162	0.640	20.507	0.948	32.371	30.686	26.497	25.117	114.800	1.460	133.360	0.003	0.003	114.399	12.842	115.399	1.955	11.772	73.149	40.579	-0.239	2.083	281.649	0.000	0.000	0.000	0.000	12.274	122.742	122.742
247	9.650	31.660	-9.650	-31.660	129.066	1.866	45.800	1.446	8	6	9	6	5	120.915	1.812	1.167	0.645	20.672	0.946	30.911	29.241	25.458	24.082	109.094	1.466	127.255	0.006	0.006	108.421	12.228	109.421	1.972	12.192	71.767	40.349	-0.234	2.115	273.039	0.000	0.000	0.000	0.000	11.697	116.966	116.966
248	9.700	31.824	-9.700	-31.824	117.961	1.605	24.170	1.361	8	6	9	6	5	120.915	1.822	1.172	0.650	20.836	0.944	28.252	26.671	23.364	22.056	99.158	1.382	116.140	0.001	0.001	99.068	11.228	100.068	1.982	12.478	69.130	39.909	-0.219	2.177	256.891	0.000	0.000	0.000	0.000	10.668	106.683	106.683
249	9.750	31.988	-9.750	-31.988	91.881	1.048	19.410	1.141	8	6	9	6	5	120.915	1.832	1.177	0.655	21.000	0.942	22.006	20.732	18.427	17.361	76.569	1.164	90.050	-0.001	-0.001	76.611	8.744	77.611	2.015	13.357	61.909	38.706	-0.176	2.383	219.016	0.000	0.000	0.000	0.000	8.293	82.927	82.927
250	9.800	32.152	-9.800	-32.152	71.820	1.116	20.750	1.554	7	5	8	6	5	117.733	1.842	1.181	0.660	21.164	0.940	22.934	21.564	15.422	14.500	59.268	1.595	69.979	-0.000	-0.000	59.278	6.818	60.278	2.186	18.515	54.792	37.519	-0.182	2.665	191.472	0.000	0.000	0.000	0.000	6.469	64.692	64.692
251	9.850	32.316	-9.850	-32.316	49.718	1.542	18.910	3.101	6	4	8	6	4	114.551	1.851	1.186	0.666	21.328	0.939	19.052	17.880	12.330	11.572	40.390	3.221	47.868	-0.002	-0.002	40.454	4.706	41.454	2.509	31.108	44.196	35.753	-0.235	3.210	159.678	0.000	0.000	0.000	0.000	4.470	44.701	44.701
252	9.900	32.480	-9.900	-32.480	41.767	2.058	23.490	4.927	4	3	8	6	3	114.551	1.861	1.190	0.671	21.492	0.937	26.675	24.989	11.650	9.769	33.552	5.157	39.907	0.002	0.002	33.499	3.931	34.499	2.741	42.684	0.000	0.000	0.000	0.000	0.000	2.662	0.008	10.000	3.748	37.484	33.552
253	9.950	32.644	-9.950	-32.644	61.175	3.553	35.980	5.808	11	3	8	6	8	130.461	1.871	1.195	0.676	21.656	0.935	58.605	54.789	16.446	13.935	49.655	5.991	59.305	0.007	0.008	49.289	5.753	50.289	2.672	38.960	0.000	0.000	0.000	0.000	0.000	3.955	0.056	10.000	5.479	54.789	49.655
254	10.000	32.808	-10.000	-32.808	100.262	4.708	192.510	4.696	11	9	8	6	8	130.461	1.881	1.200	0.681	21.821	0.933	96.051	89.587	0.000	0.000	81.990	4.785	98.381	0.053	0.054	77.550	9.029	78.550	2.432	0.000	64.123	39.075	-0.471	2.317	232.385	0.000	0.000	0.000	0.000	8.959	89.587	89.587
255	10.050	32.972	-10.050	-32.972	86.168	5.490	7.720	6.371	11	9	9	6	8	130.461	1.892	1.206	0.686	21.985	0.931	82.549	76.815	0.000	0.000	69.911	6.514	84.277	-0.005	-0.005	70.280	8.232	71.280	2.604	0.000	59.715	38.340	-0.807	2.466	212.618	0.000	0.000	0.000	0.000	7.682	76.815	69.911
256	10.100	33.136	-10.100	-33.136	97.090	5.720	1.540	5.891	11	9	9	6	8	130.461	1.903	1.212	0.691	22.149	0.928	93.012	86.352	0.000	0.000	78.598	6.009	95.188	-0.007	-0.007	79.129	9.297	80.129	2.519	0.000	63.069	38.899	-0.692	2.352	228.418	0.000	0.000	0.000	0.000	8.635	86.352	86.352
257	10.150	33.300	-10.150	-33.300	121.502	5.743	365.580	4.727	11	9	8	6	8	130.461	1.913	1.217	0.696	22.313	0.926	116.399	107.816	0.000	0.000	98.294	4.802	119.590	0.088	0.090	89.487	10.547	90.487	2.384	0.000	69.433	39.960	-0.499	2.178	264.713	0.000	0.000	0.000	0.000	10.782	107.816	107.816
258	10.200	33.464	-10.200	-33.464	158.575	5.283	423.620	3.332	6	8	8	6	8	114.551	1.924	1.222	0.701	22.477	0.924	60.766	56.172	0.000	0.000	128.238	3.372	156.652	0.079	0.080	117.987	13.925	118.987	2.192	0.000	77.007	41.222	-0.388	2.008	318.521	0.000	0.000	0.000	0.000	14.043	140.429	140.429
259	10.250	33.628	-10.250	-33.628	198.191	3.867	25.770	1.951	8	6	9	6	8	120.915	1.933	1.227	0.707	22.641	0.923	47.467	43.797	38.758	35.761	160.066	1.970	196.259	0.000	0.000	159.986	18.910	160.986	1.949	15.605	83.346	42.279	-0.313	1.925	381.608	0.000	0.000	0.000	0.000	17.519	175.187	175.187
260	10.300	33.792	-10.300	-33.792	195.751	2.644	0.110	1.351	8	6	9	6	5	120.915	1.943	1.231	0.712	22.805	0.921	46.882	43.173	36.661	33.760	157.452	1.364	193.808	-0.004	-0.004	158.027	18.753	159.027	1.832	8.813	82.935	42.210	-0.264	1.924	376.713	0.000	0.000	0.000	0.000	17.269	172.692	172.692
261	10.350	33.956	-10.350	-33.956	171.651	2.388	8.240	1.208	9	6	9	6	5	124.097	1.953	1.236	0.717	22.970	0.919	37.354	34.804	36.518	33.562	158.354	1.220	195.699	-0.002	-0.002	158.725	18.910	159.725	1.794	7.993	83.155	42.247	-0.252	1.925	380.576	0.000	0.000	0.000	0.000	17.402	174.021	174.021
262	10.400	34.120	-10.400	-34.120	209.773	2.613	24.540	1.246	9	6	9	6	5	124.097	1.963	1.241	0.722	23.134	0.917	40.193	36.863	38.655	35.454	167.469	1.257	207.811	0.000	0.000	167.433	20.023	168.433	1.787	7.836	84.803	42.521	-0.260	1.949	408.950	0.000	0.000	0.000	0.000	18.432	184.317	184.317
263	10.450	34.284	-10.450	-34.284	206.092	2.852	30.830	1.384	8	6	9	6	5	120.915	1.973	1.246	0.727	23.298	0.915	49.359	45.181	38.521	35.261	163.844	1.397	204.120	0.001	0.001	163.655	19.651	164.655	1.826	8.692	84.239	42.427	-0.270	1.937	399.293	0.000	0.000	0.000	0.000	18.072	180.725	180.725
264	10.500	34.448	-10.500	-34.448	196.595	2.993	26.370	1.522	8	6	9	6	5	120.915	1.983	1.251	0.732	23.462	0.914	47.084	43.016	37.357	34.129	155.613	1.538	194.612	0.000	0.000	155.540	18.755	156.540	1.872	9.720	82.831	42.193	-0.276	1.926	378.705	0.000	0.000	0.000	0.000	17.207	172.065	172.065
265	10.550	34.612	-10.550	-34.612	178.037	3.009	29.950	1.690	8	6	9	6	5	120.915	1.993	1.256	0.737	23.626	0.912	42.640	38.881	34.636	31.583	140.229	1.709	176.045	0.001	0.001	140.071	16.966	141.071	1.935	11.255	79.934	41.710	-0.279	1.955	348.143	0.000	0.000	0.000	0.000	15.552	155.525	155.525
266	10.600	34.776	-10.600	-34.776	160.700	3.779	28.880	2.352	7	5	9	6	5	117.733	2.003	1.261	0.742	23.790	0.910	51.317	46.707	32.983	30.020	125.943	2.381	158.698	0.001	0.001	125.817	15.309	126.817	2.074	15.035	76.944	41.212	-0.317	2.015	323.903	0.000	0.000	0.000	0.000	14.012	140.120	140.120
267	10.650	34.941	-10.650	-34.941	161.078	3.857	36.540	2.394	7	5	9	6	5	117.733	2.013	1.265	0.748	23.954	0.909	51.438	46.733	33.138	30.107	125.783	2.425	159.066	0.002	0.002	125.472	15.322	126.472	2.080	15.209	76.960	41.214	-0.320	2.015	324.714	0.000	0.000	0.000	0.000	14.020	140.198	140.198
268	10.700	35.105	-10.700	-35.105	144.475	4.492	140.240	3.109	6	5	9	6	8	114.551	2.022	1.270	0.753	24.119	0.907	55.363	50.211	31.193	28.291	112.255	3.153	142.454	0.025	0.025	109.399	13.421	110.399	2.199	18.952	73.792	40.686	-0.360	2.086	301.531	0.000	0.000	0.000	0.000	12.553	125.529	125.529
269	10.750	35.269	-10.750	-35.269	183.356	4.915	654.450	2.681	7	5	8	6	8	117.733	2.032	1.274	0.758	24.283	0.905	58.552	53.011	37.778	34.203	142.392	2.711	181.325	0.107	0.108	126.945	15.608	127.945	2.084	15.321	80.574	41.816	-0.343	1.947	357.082	0.000	0.000	0.000	0.000	15.903	159.034	159.034
270	10.800	35.433	-10.800	-35.433	201.692	4.708	262.950	2.334	7	5	9	6	8	117.733	2.042	1.278	0.763	24.447	0.904	64.407	59.209	40.388	36.502	156.226	2.358	199.651	0.037	0.037	156.201	18.536	157.201	2.011	12.247	83.255	42.263	-0.336	1.929	399.209	0.000	0.000	0.000	0.000	17.463	174.627	174.627
271	10.850	35.597	-10.850	-35.597	187.638	4.275	10.830	2.278	7	5	9	6	8	117.733	2.051	1.283	0.768	24.611	0.902	59.919	54.057	37.746	34.053	144.708	2.303	185.587	-0.002	-0.002	145.043	17.943	146.043	2.023	13.573	81.134	41.910	-0.328	1.940	364.197	0.000	0.000	0.000	0.000	16.217	162.172	162.172
272	10.900	35.761	-10.900	-35.761	173.102	3.260	13.100	1.883	8	5	9	6	5	120.915	2.061	1.288	0.773	24.775	0.901	41.458	37.334	34.284	30.874	132.883	1.906	171.042	-0.002	-0.002	133.166	16.544	134.166	1.982	12.475	78.770	41.516	-0.288	1.980	342.920	0.000	0.000	0.000	0.000	14.934	149.337	149.337
273	10.950	35.925	-10.950	-35.925	135.813	3.796	59.810	2.795	7	5	9	6	4	117.733	2.071	1.292	0.778	24.939	0.899	43.370	38.985	29.130	26.185	103.531	2.838	133.744	0.008	0.008	102.688	12.832	103.688	2.183	18.423	71.765	40.348	-0.327	2.136	290.250	0.000	0.000	0.000	0.000	11.696	116.956	116.956
274	11.000	36.089	-11.000	-36.089	134.167	3.783	308.750	2.820	7	5	9	6	4	117.733	2.080	1.297	0.783	25.103	0.897	42.844	38.446	28.859	25.896	101.891	2.864	132.088	0.066	0.067	95.061	11.930	96.061	2.190	18.651	71.365	40.282	-0.320	2.146	288.081	0.000	0.000	0.000	0.000	11.534	115.337	115.337
275	11.050	36.253	-11.050	-36.253	191.812	4.132	383.220	2.154	7	5	8	6	5	117.733	2.090	1.301	0.789	25.267	0.896	61.252	54.868	38.244	34.258	145.840	2.178	189.723	0.058	0.059	137.251	17.230	138.251	2.000	12.942	81.560	41.981	-0.312	1.937	371.783	0.000	0.000	0.000	0.000	16.460	164.603	164.603
276	11.100	36.417	-11.100	-36.417	234.762	3.038	9.870	1.294	9	6	9	7	5	124.097	2.100	1.306	0.794	25.432	0.894	44.980	40.218	43.062	38.502	178.191	1.306	232.663	-0.002	-0.002	178.562	22.461	179.562	1.774	7.566	87.299	42.937	-0.271	0.000	0.000	0.000	0.000	0.000	0.000	20.109	201.089	201.089
277	11.150	36.581	-11.150	-36.581	237.708	2.660	-1.910	1.119	9	6	9	7	6	124.097	2.110	1.311	0.799	25.596	0.892	45.545	40.644	42.842	38.232	179.743	1.129	235.599	-0.004	-0.004	180.398	22.778	181.398	1.723	6.563	87.601	42.988	-0.256	0.000	0.000	0.000	0.000	0.000	0.000	20.322	203.220	203.220
278	11.200	36.745	-11.200	-36.745	237.788	2.368	-3.500	0.996	9	6	9	7	6	124.097	2.120	1.316	0.804	25.760	0.891	45.556	40.576	42.316	37.690	179.091	1.005	235.649	-0.004	-0.004	179.784	22.789	180.784	1.687	5.873	87.553	42.980	-0.243	0.000	0.000	0.000	0.000	0.000	0.000	20.288	202.880	202.880
279	11.250	36.909	-11.250	-36.909	211.413	2.432	6.880	1.150	9	6	9	6	5	124.097	2.130	1.321	0.809	25.924	0.889	40.507	36.009	38.708	34.410	158.444	1.162	209.283	-0.003	-0.003	158.894	20.233	159.894	1.768	7.459	84.131	42.409	-0.246	1.942	410.651	0.000	0.000	0.000	0.000	18.005	180.047	180.047
280	11.300	37.073	-11.300	-37.073	190.424	2.826	18.220	1.484	8	6	9	6	5	120.915	2.140	1.326	0.814	26.088	0.887	45.606	40.467	36.314	32.222	142.016	1.501	188.284	-0.001	-0.001	142.201	18.188	143.201	1.881	9.948	81.080	41.901	-0.264	1.946	370.669	0.000	0.000	0.000	0.000	16.187	161.870	161.870
281	11.350	37.237	-11.350	-37.237	145.610	3.260	24.100	2.239	7	5	9	6	5	117.733	2.150	1.331	0.819	26.252	0.886	46.498	41.186	30.123	26.682	107.828	2.272	143.461	-0.000	-0.000	107.878	13.877	108.878	2.094	15.627	73.339	40.611	-0.292	2.107	306.869	0.000	0.000	0.000	0.000	12.356	123.559	123.559
282	11.400	37.401	-11.400	-37.401	128.661	3.741	59.500	2.908	7	5	9	6	4	117.733	2.160	1.336	0.824	26.416	0.884	41.086	36.330	27.982	24.743	94.759	2.957	126.502	0.008	0.008	93.985	12.148	94.985	2.216	19.541	69.743	40.011	-0.325	2.192	282.087	0.000	0.000	0.000	0.000	10.899	108.991	108.991
283	11.450	37.565	-11.450	-37.565	134.601	4.081	218.020	3.032	6	5	8	6	4	114.551	2.169	1.340	0.829	26.581	0.883	51.579	45.534	29.293	25.860	98.875	3.082	132.432	0.044	0.045	94.413	12.243	95.413	2.218	19.595	70.990	40.219	-0.335	2.163	291.206	0.000	0.000	0.000	0.000	11.384	113.835	113.835
284	11.500	37.729	-11.500	-37.729	167.244	4.057	362.720	2.426	7	5	8	6	5	117.733	2.179	1.344	0.835	26.745	0.881	53.407	47.070	34.441

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
337	14.150	46.423	-14.150	-46.423	646.395	7.233	53.630	1.119	9	6	10	7	8	124.097	2.709	1.603	1.106	35.444	0.807	123.849	99.958	107.631	86.868	401.689	1.124	643.687	0.001	0.001	401.334	61.764	402.334	1.486	2.645	0.000	47.287	-0.332	0.000	0.000	0.000	0.000	0.000	49.979	499.791	499.791
338	14.200	46.587	-14.200	-46.587	641.065	1.281	66.410	0.200	10	7	10	7	7	127.279	2.720	1.608	1.111	35.608	0.806	102.357	82.478	90.687	73.075	397.070	0.201	638.346	0.002	0.002	396.472	61.215	397.472	0.935	0.000	0.000	47.239	-0.171	0.000	0.000	0.000	0.000	0.000	49.487	494.869	494.869
339	14.250	46.751	-14.250	-46.751	629.093	3.229	51.720	0.513	10	7	10	7	8	127.279	2.730	1.614	1.116	35.772	0.804	100.445	80.804	96.447	77.588	388.332	0.516	626.364	0.001	0.001	388.023	60.112	389.023	1.218	0.000	0.000	47.141	-0.250	0.000	0.000	0.000	0.000	0.000	48.483	484.826	484.826
340	14.300	46.915	-14.300	-46.915	591.618	6.032	34.920	1.020	10	6	10	7	8	127.279	2.740	1.619	1.121	35.936	0.803	94.462	75.866	98.123	78.807	363.892	1.024	588.879	-0.000	-0.000	363.912	56.573	364.912	1.474	2.477	0.000	46.840	-0.312	0.000	0.000	0.000	0.000	0.000	45.520	455.195	455.195
341	14.350	47.079	-14.350	-47.079	604.095	1.795	52.000	0.297	10	7	10	7	7	127.279	2.751	1.624	1.127	36.101	0.802	96.454	77.339	88.530	70.985	370.379	0.298	601.345	0.001	0.001	370.072	57.717	371.072	1.062	0.000	0.000	46.932	-0.198	0.000	0.000	0.000	0.000	0.000	46.403	464.033	464.033
342	14.400	47.244	-14.400	-47.244	624.621	4.466	51.460	0.715	10	6	10	7	8	127.279	2.761	1.630	1.132	36.265	0.801	99.731	79.836	99.178	79.394	381.764	0.718	621.861	0.001	0.001	381.473	59.685	382.473	1.335	0.774	0.000	47.084	-0.280	0.000	0.000	0.000	0.000	0.000	47.902	479.017	479.017
343	14.450	47.408	-14.450	-47.408	636.762	7.605	25.960	1.194	9	6	10	7	8	124.097	2.772	1.635	1.137	36.429	0.799	122.004	97.510	107.053	85.561	387.976	1.200	633.992	-0.001	-0.001	388.175	60.924	389.175	1.516	3.069	0.000	47.168	-0.337	0.000	0.000	0.000	0.000	0.000	48.755	487.551	487.551
344	14.500	47.572	-14.500	-47.572	624.620	0.933	32.100	0.149	10	7	10	7	7	127.279	2.782	1.640	1.142	36.593	0.798	99.731	79.583	87.162	69.553	379.335	0.150	621.840	-0.000	-0.000	379.420	59.743	380.420	0.885	0.000	0.000	47.069	-0.143	0.000	0.000	0.000	0.000	0.000	47.750	477.497	477.497
345	14.550	47.736	-14.550	-47.736	602.234	4.345	37.440	0.721	10	6	10	7	8	127.279	2.792	1.645	1.147	36.757	0.797	96.157	76.606	96.033	76.508	364.490	0.725	599.443	0.000	0.000	364.476	57.582	365.476	1.349	0.927	0.000	46.887	-0.277	0.000	0.000	0.000	0.000	0.000	45.964	459.639	459.639
346	14.600	47.900	-14.600	-47.900	621.418	7.569	26.850	1.218	9	6	10	7	8	124.097	2.803	1.650	1.152	36.921	0.795	119.064	94.707	104.947	83.478	374.965	1.224	618.616	-0.001	-0.001	375.155	59.452	376.155	1.530	3.273	0.000	47.029	-0.336	0.000	0.000	0.000	0.000	0.000	47.353	473.534	473.534
347	14.650	48.064	-14.650	-48.064	601.380	10.155	27.160	1.689	9	6	10	7	8	124.097	2.813	1.656	1.157	37.085	0.794	115.224	91.513	106.060	84.234	361.705	1.697	598.568	-0.001	-0.001	361.891	57.531	362.891	1.660	5.392	0.000	46.865	-0.376	0.000	0.000	0.000	0.000	0.000	45.756	457.564	457.564
348	14.700	48.228	-14.700	-48.228	587.589	1.205	27.080	0.205	10	7	10	7	7	127.279	2.823	1.661	1.162	37.250	0.793	93.818	74.395	84.125	66.709	352.261	0.206	584.767	-0.001	-0.001	352.451	56.210	353.451	0.979	0.000	0.000	46.747	-0.163	0.000	0.000	0.000	0.000	0.000	44.637	446.372	446.372
349	14.750	48.392	-14.750	-48.392	577.938	3.656	36.520	0.633	10	6	10	7	8	127.279	2.834	1.666	1.168	37.414	0.792	92.277	73.056	91.251	72.244	345.334	0.636	575.106	-0.000	-0.000	345.351	55.257	346.351	1.316	0.576	0.000	46.660	-0.259	0.000	0.000	0.000	0.000	0.000	43.834	438.339	438.339
350	14.800	48.556	-14.800	-48.556	550.461	6.459	38.600	1.173	9	6	10	7	8	124.097	2.844	1.671	1.173	37.578	0.790	105.468	83.370	93.455	73.874	327.808	1.179	547.618	0.000	0.000	327.788	52.619	328.788	1.546	3.515	0.000	46.420	-0.318	0.000	0.000	0.000	0.000	0.000	41.685	416.850	416.850
351	14.850	48.720	-14.850	-48.720	523.780	8.621	41.620	1.646	9	6	10	7	8	124.097	2.854	1.676	1.178	37.742	0.789	100.356	79.209	93.078	73.465	310.889	1.655	520.927	0.000	0.000	310.816	50.054	311.816	1.683	5.793	0.000	46.175	-0.357	0.000	0.000	0.000	0.000	0.000	39.605	396.046	396.046
352	14.900	48.884	-14.900	-48.884	488.060	9.376	41.630	1.921	8	6	10	7	8	120.915	2.864	1.681	1.183	37.906	0.788	116.890	92.124	88.982	70.129	288.716	1.932	485.197	0.000	0.000	288.647	46.632	289.647	1.756	7.215	0.000	45.831	-0.373	0.000	0.000	0.000	0.000	0.000	36.850	368.496	368.496
353	14.950	49.048	-14.950	-49.048	458.625	7.960	39.220	1.736	8	6	10	7	8	120.915	2.874	1.686	1.188	38.070	0.787	109.841	86.445	82.950	65.281	270.423	1.747	455.752	0.000	0.000	270.402	43.819	271.402	1.734	6.761	0.000	45.527	-0.350	0.000	0.000	0.000	0.000	0.000	34.578	345.779	345.779
354	15.000	49.212	-15.000	-49.212	426.356	7.267	41.020	1.704	8	6	10	7	8	120.915	2.884	1.691	1.193	38.234	0.786	102.112	80.248	77.415	60.839	250.557	1.716	423.473	0.000	0.000	250.506	40.722	251.506	1.745	6.982	0.000	45.171	-0.340	0.000	0.000	0.000	0.000	0.000	32.099	320.993	320.993
355	15.050	49.376	-15.050	-49.376	368.417	6.766	29.920	1.837	8	6	10	7	8	120.915	2.894	1.696	1.198	38.399	0.785	88.236	69.245	68.407	53.684	215.658	1.851	365.524	-0.001	-0.001	215.814	35.205	216.814	1.808	8.290	0.000	44.467	-0.335	0.000	0.000	0.000	0.000	0.000	27.698	276.979	276.979
356	15.100	49.540	-15.100	-49.540	365.261	5.854	24.250	1.603	8	6	10	7	8	120.915	2.904	1.700	1.203	38.563	0.784	87.480	68.555	66.728	52.292	213.188	1.616	362.359	-0.001	-0.001	213.450	34.920	214.450	1.762	7.331	0.000	44.419	-0.315	0.000	0.000	0.000	0.000	0.000	27.422	274.219	274.219
357	15.150	49.704	-15.150	-49.704	335.899	5.300	30.280	1.578	8	6	10	7	8	120.915	2.914	1.705	1.209	38.727	0.783	80.448	62.955	61.728	48.306	195.356	1.592	332.986	-0.001	-0.001	195.510	32.089	196.510	1.779	7.676	93.747	44.012	-0.304	0.000	0.000	0.000	0.000	0.000	25.182	251.821	251.821
358	15.200	49.868	-15.200	-49.868	311.169	4.061	28.730	1.305	9	6	10	7	5	124.097	2.924	1.710	1.214	38.891	0.781	59.620	46.589	56.313	44.005	180.320	1.317	308.247	-0.001	-0.001	180.505	29.724	181.505	1.735	6.794	91.514	43.640	-0.273	0.000	0.000	0.000	0.000	0.000	23.294	232.945	232.945
359	15.250	50.032	-15.250	-50.032	286.241	3.569	30.600	1.247	9	6	10	6	5	124.097	2.934	1.715	1.219	39.055	0.780	54.844	42.793	51.963	40.546	165.243	1.260	283.308	-0.001	-0.001	165.396	27.330	166.396	1.744	6.970	89.078	43.234	-0.259	0.000	0.000	0.000	0.000	0.000	21.397	213.967	213.967
360	15.300	50.196	-15.300	-50.196	244.018	2.992	31.740	1.226	9	6	9	6	5	124.097	2.944	1.720	1.224	39.219	0.779	46.754	36.427	44.955	35.026	140.196	1.241	241.075	-0.001	-0.001	140.332	23.282	141.332	1.786	7.822	84.462	42.464	-0.241	1.983	483.988	0.000	0.000	0.000	18.214	182.136	182.136
361	15.350	50.360	-15.350	-50.360	224.710	2.240	33.710	0.997	9	6	9	6	6	124.097	2.954	1.725	1.229	39.383	0.778	43.055	33.496	40.833	31.768	128.584	1.010	221.757	-0.001	-0.001	128.686	21.426	129.686	1.747	7.026	82.057	42.064	-0.212	1.978	444.701	0.000	0.000	0.000	16.748	167.479	167.479
362	15.400	50.524	-15.400	-50.524	205.082	1.765	37.090	0.861	9	6	9	6	6	124.097	2.965	1.730	1.234	39.548	0.777	39.294	30.525	37.084	28.809	116.854	0.873	202.118	-0.000	-0.000	116.898	19.536	117.898	1.733	6.749	79.395	41.620	-0.189	2.024	415.342	0.000	0.000	0.000	15.263	152.626	152.626
363	15.450	50.688	-15.450	-50.688	197.338	1.627	38.080	0.824	9	6	9	6	6	124.097	2.975	1.735	1.239	39.712	0.776	37.810	29.330	35.693	27.688	112.043	0.837	194.364	-0.000	-0.000	112.072	18.791	113.072	1.734	6.764	78.250	41.429	-0.182	2.051	405.000	0.000	0.000	0.000	14.665	146.648	146.648
364	15.500	50.852	-15.500	-50.852	197.862	1.433	38.750	0.724	9	6	9	6	6	124.097	2.985	1.741	1.244	39.876	0.775	37.910	29.365	35.332	27.368	112.013	0.735	194.878	-0.000	-0.000	112.033	18.839	113.033	1.697	6.056	78.284	41.435	-0.170	2.051	406.049	0.000	0.000	0.000	14.682	146.824	146.824
365	15.550	51.016	-15.550	-51.016	186.733	0.768	37.310	0.411	9	6	9	6	6	124.097	2.995	1.746	1.249	40.040	0.773	35.778	27.673	31.980	24.736	105.304	0.418	183.739	-0.000	-0.000	105.352	17.777	106.352	1.573	3.925	76.583	41.151	-0.117	2.094	391.152	0.000	0.000	0.000	13.836	138.365	138.365
366	15.600	51.180	-15.600	-51.180	168.423	0.305	30.850	0.181	9	6	9	6	6	124.097	3.005	1.751	1.255	40.204	0.772	32.270	24.923	27.788	21.462	94.530	0.184	165.419	-0.002	-0.002	94.697	16.043	95.697	1.458	2.256	73.583	40.651	-0.041	2.170	365.582	0.000	0.000	0.000	12.462	124.617	124.617
367	15.650	51.345	-15.650	-51.345	149.235	0.598	29.680	0.401	9	6	9	6	6	124.097	3.015	1.756	1.260	40.368	0.771	28.593	22.052	26.247	20.242	83.319	0.409	146.221	-0.002	-0.002	83.509	14.208	84.509	1.652	5.000	70.075	40.067	-0.095	2.258	337.180	0.000	0.000	0.000	11.026	110.261	110.261
368	15.700	51.509	-15.700	-51.509	132.494	0.779	26.340	0.588	9	6	9	6	6	124.097	3.026	1.761	1.265	40.532	0.770	25.386	19.550	24.408	18.797	73.562	0.602	129.470	-0.003	-0.003	73.813	12.614	74.813	1.786	7.819	66.623	39.491	-0.115	2.351	311.673	0.000	0.000	0.000	9.775	97.751	97.751
369	15.750	51.673	-15.750	-51.673	130.345	0.660	28.090	0.506	9	6	9	6	6	124.097	3.036	1.766	1.270	40.696	0.769	24.974	19.206	23.769	18.278	72.128	0.518	127.311	-0.003	-0.003	72.350	12.403	73.350	1.757	7.225	66.114	39.406	-0.101	2.367	308.636	0.000	0.000	0.000	9.603	96.028	96.028
370	15.800	51.837	-15.800	-51.837	129.294	0.723	29.440	0.559	9	6	9	6	6	124.097	3.046	1.771	1.275	40.861	0.768	24.773	19.023	23.801	18.278	71.322	0.573	126.249	-0.003	-0.003	71.523	12.298	72.523	1.784	7.777	65.840	39.361	-0.108	2.376	307.294	0.000	0.000	0.000	9.512	95.117	95.117
371	15.850	52.001	-15.850	-52.001	129.310	1.540	30.490	1.191	8	5	9	6	5	120.915	3.056	1.776	1.280	41.025	0.767	30.970	23.749	25.620	19.647	71.128	1.220	126.256	-0.003	-0.003	71.312	12.297	72.312	1.983	12.500	65.804	39.355	-0.174	2.378	307.591	0.000	0.000	0.000	9.500	94.997	94.997
372	15.900	52.165	-15.900	-52.165	144.518	2.230	33.260	1.543	8	5	9	6	5	120.915	3.066	1.781	1.285	41.189	0.766	34.612	26.506	29.086	22.275	79.475	1.576	141.453	-0.002	-0.002	79.613	13.745	80.613	2.024	13.608	68.953	39.880	-0.211	2.292	331.359	0.000	0.000	0.000	10.603	106.026	106.026
373	15.950	52.329	-15.950	-52.329	133.373	3.724	42.130	2.792	7	5	9	6	4	117.733	3.076	1.785	1.290	41.353	0.765	42.590	32.574	29.250	22.371	73.016	2.858	130.299	0.000	0.000	73.002	12.651	74.002	2.236	20.223	66.615	39.490	-0.287	2.356	314.389	0.000	0.000	0.000	9.772	97.721	97.721
374	16.000	52.493	-16.000	-52.493	132.834	4.244	279.300	3.195	6	5	8	6	4	114.551	3.085	1.790	1.296	41.517	0.764	50.902	38.883	29.706	22.692	72.529	3.271	129.750	0.056	0.057	68.380	11.890	69.380	2.282	21.850	66.463	39.465	-0.307	2.361	313.799	0.000	0.000	0.000	9.721	97.206	97.206
375	16.050	52.657	-16.050	-52.657	193.356	6.346	556.750	3.282	12	5	8	6	4	120.915	3.095	1.794	1.301	41.681	0.763	92.617	70.658	41.534	31.686	106.087	3.335	190.262	0.083	0.085	97.122	16.859	98.122	2.186	18.542	77.188	41.252	-0.359	2.086	403.455	0.000	0.000	0.000	14.132	141.317	141.317
376	16.100	52.821	-16.100	-52.821	187.922	9.046	354.300	4.814	11	9	8	6	8	130.461	3.105	1.799	1.306	41.845	0.762	180.029	137.147	0.000	0.000	102.754	4.895	184.818	0.052	0.053	97.331	16.943	98.331	2.329	0.000	76.330	41.109	-0.527	2.108	396.337	0.000	0.000	0.000	13.715	137.147	137.147
377	16.150	52.985	-16.150	-52.985	174.758	10.696	438.580	6.120	11	9	8	6	8	130.461	3.116	1.805	1.311	42.010	0.761	167.418	127.343	0.000	0.000	95.134	6.232	171.643	0.071	0.072	88.273	15.430	89.273	2.433	0.000	74.204	40.755	-0.782	2.163	378.153	0.000	0.000	0.000	12.734	127.343	127.343
378	16.200	53.149	-16.200	-53.149	165.789	8.898	437.130	5.367	11	9	8	6	8	130.461	3.127	1.811	1.316	42.174	0.759	158.826	120.621	0.000	0.000	89.879	5.470	162.664	0.074	0.076	83.067	14.575	84.067	2.400	0.000	72.649	40.496	-0.588	2.203	365.395	0.000	0.000	0.000	12.062	120.621	120.621
379	16.250	53.313	-16.250	-53.313	232.058	6.564	478.630	2.829	7	5	9	6	8	117.733	3.137	1.816	1.321	42.338	0.758	74.104	56.200	47.892	36.321	126.138	2.867	228.922	0.059	0.059	118.633	20.800	119.633	2.088	15.447	82.248	42.095	-0.347	1.986	461.014	0.000	0.000	0.000	16.860	168.600	168.600
380	16.300	53.477	-16.300	-53.477	292.427	10.183	830.940	3.482	12	8	8	6	8	120.915	3.147	1.820	1.326	42.502	0.757	140.073	106.094	0.000	0.000	158.987	3.520	289.282	0.084	0.085	145.461	25.530	146.461	2.104	0.000	88.839	43.194	-0.431	0.000	0.000	0.000	0.000	0.000	21.219	212.188	212.188
381	16.350	53.641	-16.350	-53.641	345.219	15.668	39.950	4.539	11	9	10	7	8	130.461	3.157	1.825	1.331	42.666	0.756	330.720	250.138	0.000	0.000	187.461	4.580	342.064	-0.000	-0.000	187.507	32.953	188.507	2.165	0.000	93.555	43.980	-0.598	0.000	0.000	0.000	0.000	0.000	25.014	250.138	250.138
382	16.400	53.805	-16.400	-53.805	428.730	5.922	123.390	1.381	9	6	10	7	8	124.097	3.167	1.831	1.337	42.830	0.755	82.145	62.039	76.074	57.455	232.544	1.392	425.564	0.006	0.006	231.170	40.703	232.170	1.678	5.714	0.000	45.008	-0.304	0.000	0.000	0.000	0.000	0.000	31.020	310.197	310.197
383	16.450	53.969	-16.450	-53.969	287.120	10.184	187.380	3.547	12	8	9	6	8	120.915	3.177	1.836	1.342	42.994	0.754	137.530	103.729	0.000	0.000	154.741	3.587	283.944	0.016	0.016	152.284	26.946	153.284	2.116	0.000	88.193	43.086	-0.444	0.000	0.000	0.000	0.000	0.000	20.746	207.459	207.459
384	16.500	54.133	-16.500	-54.133	253.711	14.252	1544.390	5.617	11	9	0	0	8	130.461	3.188	1.841	1.347	43.159	0.753	243.055	183.061	0.000	0.000	136.144	5.689	250.525	0.185	0.187	110.678	19.687	111.678	2.315	0.000	84.607	42.489	-0.697	1.996	506.582	0.000	0.000	0.000	18.306	183.061	183.061
385	16.550	54.297	-16.550	-54.297	291.331	16.091	1544.390	5.523	11	9	0	6	8	130.461	3.198	1.846	1.352	43.323	0.752	279.095	209.887	0.000	0.000	156.108	5.585	288.134	0.161	0.163	130.723	23.291	131.723	2.277	0.000	88.526	43.142	-0.711	0.000	0.000	0.000	0.000	0.000	20.989	209.887	209.887
386	16.600	54.461	-16.600	-54.461	244.875	14.688	1237.460	5.998	11	9	0	6	8	130.461	3.209	1.852	1.357	43.487	0.751	234.590	176.152	0.000	0.000	130.539	6.078	241.667	0.152	0.154	110.407	19.759	111.407	2.348	0.000	83.504	42.305	-0.797	1.985	486.252	0.000	0.000	0.000	17.615	176.152	176.152
387	16.650	54.625	-16.650	-54.625	217.772	0.010	1329.810	0.005	10	0	0	0	0	127.279	3.220	1.858	1.362	43.651	0.750	34.771	26.071	0.000	0.000	115.553	0.005	214.553	0.184	0.187	93.931	16.886	94.931	1.692	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.643	156.425	156.425
388	16.700	54.789	-16.700	-54.789	241.559	0.010	1298.970	0.004	10	0	0	6	0	127.279	3.230	1.863	1.367	43.815	0.749	38.569	28.877	0.000	0.000	127.992	0.004	238.330	0.162	0.164	106.951	19.257	107.951	1.690	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.326	173.264	173.264

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
1		ConeTec CPT Interpretations																																										
2		Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011																																										
3		DAS Version: W47																																										
4		Interpretation Format:			All but Liquefaction Parameters (NLI)																																								
5		Run ID:			1347638880																																								
6		Job No:			12-972																																								
7		Client:			TertaTech																																								
8		Project:			Dump Road																																								
9		Facility:			Dump Road																																								
10		Sounding ID:			DR-CPT-10																																								
11		Cone ID:			167:T1500F15U500																																								
12		Operator:			TS-TW																																								
13		CPT Date:			Aug-30-2012																																								
14		CPT Time:			09:35																																								
15		CPT File:			972CP10.COR																																								
16																																												
17		Tip Units:			tsf																																								
18		Sleeve Units:			tsf																																								
19		PP Units:			ft																																								
20		Tip Conversion to bar:			0.9580																																								
21		Sleeve Conversion to bar:			0.9580																																								
22		PP Conversion to meters:			0.3050																																								
23																																												
24		Col 5 (Extra Module) Parameter			N/A																																								
25		Col 5 (Extra Module) Units			N/A																																								
26																																												
27		Coord Source:																																										
28		Coord Type:																																										
29		UTM Zone:			N/A																																							
30		Easting / Long:			76.408920																																							
31		Northing / Lat:			39.324540																																							
32		Elevation:			0.000																																							
33																																												
34		Tip Net Area Ratio:			0.80																																							
35		Unit Weight of Soil Base:			Basad on Soil Zones																																							
36		Unit Weight of Soil (Def):			18.64	kN/m^3	118.62	pcf																																			
37		Unit Weight of Water:			9.81	kN/m^3	62.43	pcf																																			
38		Equilibrium U Profile Used:			No																																							
39		Soil Unit Weight Profile Used:			No																																							
40		Water Table			3.35	m	11.00	ft																																			
41		Averaging Interval:			0.00	m	0.00	ft																																			
42																																												
43		Su Factors Nkt and Ndu:			15.0	8.0																																					
44		Cn Exp. and Limits:			0.50	0.00	1.70																																				
45		Qc1 Exp. and Limits:			0.50	0.00	1.70																																				
46		State Parameter M:			1.20																																						
47		NC Su / p':			0.30																																						
48		Relative Density Method:			All Sands - Jamiolokowski (1985)																																							
49		Phi Angle Method:			Kulhawy and Mayne (1990)																																							
50		Youngs Modulus Sand Type:			Recent																																						
51		N160lc Method:			Based on qc1n																																							
52																																												
53		Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (lc)	N160 (lc)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
54		m	ft	m	ft	tsf	tsf	ft	%						pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa			%	%	deg			tsf	tsf	tsf		MPa		
55		0.050	0.164	-0.050	-0.164	9.633	0.121	0.550	1.256	5	0	6	0	0	114.551	0.009	0.009	0.000	0.000	1.700	4.614	7.845	0.000	0.000	1024.425	1.257	9.624	0.002	0.002	1022.598	0.921	1023.598	2.629	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.569	15.689	15.689
56		0.100	0.328	-0.100	-0.328	10.308	0.220	10.880	2.134	5	8	5	7	8	114.551	0.019	0.019	0.000	0.000	1.700	4.937	8.394	0.000	0.000	547.610	2.138	10.289	0.033	0.033	529.536	0.955	530.536	2.728	0.000	58.491	31.075	-0.458	0.000	0.000	0.000	0.000	0.000	1.679	16.787	16.787
57		0.150	0.492	-0.150	-0.492	13.380	0.303	1.600	2.265	5	8	6	7	8	114.551	0.028	0.028	0.000	0.000	1.700	6.409	10.895	0.000	0.000	473.742	2.269	13.352	0.004	0.004	471.970	1.277	472.970	2.651	0.000	60.157	32.321	-0.458	0.000	0.000	0.000	0.000	0.000	2.179	21.791	21.791
58		0.200	0.656	-0.200	-0.656	34.006	0.380	5.790	1.117	7	6	7	7	8	117.733	0.038	0.038	0.000	0.000	1.700	10.859	18.461	7.174	12.197	900.810	1.119	33.968	0.005	0.005	896.017	3.240	897.017	2.143	17.127	82.721	36.777	-0.409	2.791	94.940	0.000	0.000	0.000	5.538	55.382	55.382
59		0.250	0.820	-0.250	-0.820	69.918	0.398	10.960	0.569	8	0	8	0	0	120.915	0.048	0.048	0.000	0.000	1.700	16.745	28.467	0.000	0.000	1471.128	0.570	69.871	0.005	0.005	1463.926	6.665	1464.926	1.718	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.387	113.869	113.869
60		0.300	0.984	-0.300	-0.984	84.968	0.826	2.950	0.972	8	0	9	0	0	120.915	0.057	0.057	0.000	0.000	1.700	20.350	34.595	0.000	0.000	1478.995	0.973	84.911	0.001	0.001	1477.391	8.131	1478.391	1.796	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.838	138.380	138.380
61		0.350	1.148	-0.350	-1.148	89.203	1.168	30.930	1.309	8	0	8	0	0	120.915	0.067	0.067	0.000	0.000	1.700	21.364	36.319	0.000	0.000	1323.908	1.310	89.136	0.011	0.011	1309.569	8.453	1310.569	1.871	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.528	145.276	145.276
62		0.400	1.312	-0.400	-1.312	85.956	1.505	2.520	1.751	7	0	9	0	0	117.733	0.077	0.077	0.000	0.000	1.700	27.449	46.663	0.000	0.000	1113.661	1.752	85.879	0.001	0.001	1112.641	8.227	1113.641	1.974	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.999	139.988	139.988
63		0.450	1.476	-0.450	-1.476	83.136	3.056	2.610	3.676	6	8	9	7	8	114.551	0.087	0.087	0.000	0.000	1.700	31.858	54.158	0.000	0.000	958.573	3.680	83.050	0.001	0.001	957.633	7.957	958.633	2.232	0.000	0.000	0.000	0.000	41.048	-0.715	1.964	163.374	0.000	0.000	0.000	0.000	0.000	13.540	135.396	135.396
64		0.500	1.640	-0.500	-1.640	84.372	3.808	-2.880	4.513	6	11	8	9	7	130.461	0.097	0.097	0.000	0.000	1.700	36.828	127.408	0.000	0.000	871.641	4.379	84.275	0.001	0.001	872.571	7.391	873.571	2.500	0.000	0.000	0.000	0.000	41.118	-0.849	1.956	165.121	0.000	0.000	0.000	0.000	0.000	13.741	137.408	137.408
65		0.550	1.804	-0.550	-1.804	164.997	2.452	15.490	1.486	8	0	9	0	0	120.915	0.107	0.107	0.000	0.000	1.700	39.517	67.178	0.000	0.000	1541.115	1.487	164.890	0.003	0.003	1536.597	15.760	1537.597	1.738	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.871	268.714	268.714
66		0.600	1.968	-0.600	-1.968	222.047	2.885	2.800	1.299	9	0	9	0	0	124.097	0.117	0.117	0.000	0.000	1.700	42.544	72.325	0.000	0.000	1896.182	1.300	221.930	0.000	0.000	1895.435	21.264	1896.435	1.616	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	36.163	361.627	361.627
67		0.650	2.133	-0.650	-2.133	128.565	2.581	-0.830	2.008	7	0	9	0	0	117.733	0.127	0.127	0.000	0.000	1.700	41.055	69.794	0.000	0.000	1011.663	2.010	128.438	-0.000	-0.000	1011.867	12.319	1012.867	1.908	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	20.938	209.381	209.381
68		0.700	2.297	-0.700	-2.297	100.337	2.671	-0.530	2.662	7	8	9	7	8	117.733	0.137	0.137	0.000	0.000	1.700	32.041	54.469	0.000	0.000	733.461	2.666	100.200	-0.000	-0.000	733.582	9.614	734.582	2.071	0.000	0.000	0.000	0.000	41.946	-0.550	1.882	188.899	0.000	0.000	0.000	0.000	0.000	16.341	163.408	163.408
69		0.750	2.461	-0.750	-2.461	79.942	0.635	1.880	0.794	8	6	9	7	8	120.915	0.146	0.146	0.000	0.000	1.700	19.146	32.548	14.587	24.798	545.055	0.796	79.795	0.001	0.001	544.654	7.653	545.654	1.759	7.264	87.781	40.860	-0.323	1.986	158.847	0.000	0.000	0.000	13.019	130.193	130.193
70		0.800	2.625	-0.800	-2.625	157.874	0.721	2.260	0.457	9	0	9	0	0	124.097	0.157	0.157	0.000	0.000	1.700	30.249	51.423	0.000	0.000	1008.130	0.457	157.718	0.000	0.000	1007.679	15.118	1008.679	1.378	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	25.711	257.114	257.114
71		0.850	2.789	-0.850	-2.789	231.652	0.669	38.770	0.289	10	0	9	0	0	127.279	0.167	0.167	0.000	0.000	1.700	36.987	62.878	0.000	0.000	1388.187	0.289	231.485	0.005	0.005	1380.930	22.076	1381.930	1.123	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	37.727	377.268	377.268
72		0.900	2.953	-0.900	-2.953	172.765	0.562	4.040	0.325	9	7	9	7	8	124.097	0.177	0.177	0.000	0.000	1.700	33.102	56.273	26.789	45.542	974.735	0.326	172.588	0.001	0.001	974.023	16.539	975.023	1.256	0.000	0.000	0.000	0.000	44.542	-0.290	0.000	0.000	0.000	28.137	281.365	281.365
73		0.950	3.117	-0.950	-3.117	141.361	0.084	1.400	0.059	9	0	9	0	0	124.097	0.187	0.187	0.000	0.000	1.700	27.085	46.044	0.000	0.000	753.975	0.060	141.174	-0.000	-0.000	754.219	13.547	755.219	1.108	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.022	230.220	230.220
74		1.000	3.281	-1.000	-3.281	108.893	0.467	0.440	0.429	9	7	9	7	8	124.097	0.197	0.197	0.000	0.000	1.700	20.864	35.469	18.151	30.856	550.589	0.430	108.695	0.000	0.000	550.519	10.431	551.519	1.490	2.691	92.355	42.337	-0.265	1.886	205.469	0.000	0.000	0.000	17.734	177.343	177.343
75		1.050	3.445	-1.050	-3.445	55.148	0.483	-3.450	0.876	8	6	8	7	8	120.915	0.208	0.208	0.000	0.000	1.700	13.208	22.454	10.636	18.082	264.823	0.879	54.941	-0.002	-0.002	265.342	5.294	266.342	1.912	10.681	72.143	39.087	-0.266	2.234	123.233	0.000	0.000	0.000	8.981	89.815	89.815
76		1.100	3.609	-1.100	-3.609	32.658	0.480	-0.360	1.470	7	6	7	6	5	117.733	0.217	0.217	0.000	0.000	1.700	10.429	17.729	7.145	12.147	149.324	1.480	32.441	-0.000	-0.000	149.375	3.130	150.375	2.230	20.030	56.464	36.584	-0.267	2.849	93.092	0.000	0.000	0.000	5.319	53.186	53.186
77		1.150	3.773	-1.150	-3.773	17.471	0.422	-3.060	2.415	5	5	6	6	5	114.551	0.227	0.227	0.000	0.000	1.700	8.369	14.227	4.482	7.619	76.041	2.447	17.244	-0.005	-0.006	76.462	1.683	77.462	2.579	34.344	37.919	33.595	-0.265	0.000	0.000	0.000	2.845	28.453	28.453
78		1.200	3.937	-1.200	-3.937	8.516	0.397	26.620	4.662	3	4	3	4	3	111.369	0.236	0.236	0.098	0.098	1.700	8.159	13.869	4.230	10.019	35.082	4.795	30.733	0.136	0.100	31.559	7.736	32.559	2.705	90.163	0.309	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.387	13.869	35.080
79		1.250	4.101	-1.250	-4.101	6.713	0.266	21.380	3.962	3	4	4	4	5	111.369	0.245	0.245	0.000	0.000	1.700	6.432	10.934	1.881	7.717	26.383	4.112	6.468	0.099	0.103	23.661	0.579	24.661	2.750	43.152	0.000	29.026	-0.211	0.000	0.000	0.000	0.000	0.000	1.093	10.934	26.383
80		1.300	4.265	-1.300	-4.265	5.349	0.164	30.270	3.066	3	4	3	4	3	111.369	0.254	0.254	0.000	0.000	1.700	5.124	8.711	1.517	5.932	20.034	3.219	5.095	0.177	0.185	16.318	0.422	17.318	2.772	44.420	0.000	27.941	-0.116	0.000	0.000	0.000	0.000	0.000	0.871	8.711	20.034
81		1.350	4.429	-1.350	-4.429	4.778	0.139	31.650	2.909	3	4	3	4	3	111.369	0.264	0.264	0.000	0.000	1.700	4.577	7.781	1.387	5.192	17.135	3.079	4.514	0.207	0.219	13.385	0.363	14.385	2.814	46.809	0.000	27.401	-0.085	0.000	0.000	0.000	0.000	0.000	0.778	7.781	17.135
82		1.400	4.593	-1.400	-4.593	4.554	0.108	34.270	2.372	3	4	3	4	4	111.369	0.273	0.273	0.000	0.000	1.700	4.363	7.417	1.307	4.704	15.707	2.523	4.281	0.235	0.250	11.783	0.334	12.783	2.793	45.593	0.000	27.172	-0.051	0.000	0.000	0.000	0.000	0.000	0.742	7.417	15.707
83		1.450	4.757	-1.450	-4.757	4.383	0.094	32.470	2.145	3	4	3	4	4	111.369	0.282	0.282	0.000	0.000	1.700	4.199	7.138	1.260	4.568	14.558	2.292	4.101	0.231	0.247	10.960	0.323	11.960	2.796	45.777	0.000	26.989	-0.035	0.000	0.000	0.000	0.000	0.000	0.714	7.138	14.558
84		1.500	4.921	-1.500	-4.921	4.115	0.087	31.180	2.114	3	4	3	4	4	111.369	0.291	0.291	0.000	0.000	1.700	3.942	6.701	1.206	4.022	13.147	2.275	3.824	0.237	0.255	9.801	0.301	10.801	2.831	47.808	0.000	26.688	-0.022	0.000	0.000	0.000	0.000	0.000	0.670	6.701	13.147
85		1.550	5.085	-1.550	-5.085	4.081	0.090	32.230	2.205	3	4	3	3	3	111.369	0.300	0.300	0.000	0.000	1.700	3.910	6.647	1.214	3.914	12.605	2.380	3.781	0.246	0.266	9.252	0.295	10.252	2.857	49.368	0.000	26.649	-0.018	0.000	0.000	0.000	0.000	0.000	0.665	6.647	12.605
86		1.600	5.249	-1.600	-5.249	4.029	0.089	30.200	2.209	3	4	3	3	3	111.369	0.309	0.309	0.000	0.000	1.700	3.859	6.561	1.211	3.775	12.033	2.393	3.719	0.234	0.253	8.983	0.296	9.983	2.875	50.465	0.000	26.587	-0.015	0.000	0.000	0.000	0.000	0.000	0.656	6.561	12.033
87		1.650	5.413	-1.650	-5.413	3.897	0.080	26.750	2.053	3	4	3	3	3	111.369	0.318	0.318	0.000	0.000	1.700	3.733	6.347	1.177	3.545	11.245	2.235	3.579	0.214	0.233	8.622	0.293	9.622	2.883	50.974	0.000	26.428	-0.006	0.000	0.000	0.000	0.000	0.000	0.635	6.347	11.245
88		1.700	5.577	-1.700	-5.577	3.539	0.069	33.510	1.950	3	4	3	3	3	111.369	0.328	0.328	0.026	0.026	1.700	3.695	6.282	1.095	3.168	9.811	2.148	3.212	0.296	0.326	6.616	0.239	7.616	2.824	51.522	0.000	26.270	-0.004	0.000	0.000	0.000	0.000	0.000	0.214	0.131	2.470	0.576	5.764	9.811
89		1.750	5.741	-1.750	-5.741	3.374	0.053	39.020	1.571	1	4	3	3	3	111.369	0.337	0.337	0.000	0.000	1.700	1.616	2.747	1.034	2.888	9.025	1.745	3.037	0.361	0.401	5.406	0.207	6.406	2.909	52.534	0.000	25.739	0.058	0.000	0.000	0.000	0.000	0.000	0.549	5.494	9.025
90		1.800	5.905	-1.800	-5.905	3.726	0.051	40.990	1.369	1	4	3	3	4	111.369	0.346	0.346	0.000	0.000	1.700	1.785	3.034	1.102	3.019	9.780	1.509	3.380	0.343	0.379	6.078	0.234	7.078	2.847	48.751	0.000	26.213	0.054	0.000	0.000	0.000	0.000	0.000	0.607	6.068	9.780
91		1.850	6.069	-1.850	-6.069	4.000	0.056	51.220	1.400	1	4	3	3	3	111.369	0.355	0.355	0.000	0.000	1.700	1.916	3.257	1.173	3.145	10.274	1.536	3.645	0.400	0.439	5.768	0.230	6.768	2.832	47.874	0.000	26.552	0.058	0.000	0.000	0.000	0.000	0.000	0.651	6.514	10.274
92		1.900	6.234	-1.900	-6.234	4.321	0.064	52.990	1.481	1	4	3	3	3	111.369	0.364	0.364	0.000	0.000	1.694	2.070	3.505	1.260	3.310	10.873	1.617	3.957	0.383	0.418	6.328	0.255	7.328	2.822	47.279	0.000	26.903	0.046	0.000	0.000	0.000	0.000	0.000	0.701	7.011	10.873
93		1.950	6.398	-1.950	-6.398	4.533	0.072	55.020	1.588	1	4	3	3	3	111.369	0.373	0.373	0.000	0.000	1.673	2.172	3.632	1.326	3.405	11.153	1.731	4.160	0.379	0.413	6.549	0.270	7.549	2.828	47.604	0.000	27.074	0.039	0.000	0.000	0.000	0.000	0.000	0.726	7.265	11.153
94		2.000	6.562	-2.000	-6.562	4.745	0.072	58.480	1.517	1	4	3	3	3	111.369	0.382	0.382	0.000	0.000	1.653	2.273	3.756	1.373	3.448	11.416	1.650	4.363	0.385	0.418	6.640	0.280	7.640	2.808	46.475	0.000	27.234	0.040	0.000	0.000	0.000	0.000	0.000	0.751	7.513	11.416
95		2.050	6.726	-2.050	-6.726	4.523	0.073	61.420	1.614	1	4	3	3	3	111.369	0.391	0.391	0.000	0.000	1.633	2.167	3.539	1.342	3.270	10.560	1.767	4.132	0.424	0.464	5.660	0.250	6.660	2.853	49.090	0.000	26.949	0.053	0.000	0.000	0.000	0.000	0.000	0.708	7.078	10.560
96		2.100	6.890	-2.100	-6.890	4.851	0.077	67.400	1.587	1	4	3	3	3	111.369	0.401	0.401	0.000	0.000	1.615	2.324	3.751	1.420	3.396	11.113	1.730	4.450	0.434	0.473	5.860	0.263	6.860	2.829	47.679	0.000	27.227	0.050	0.000	0.000	0.000	0.000	0.000	0.750	7.503	11.113
97		2.150	7.054	-2.150	-7.054	7.010	0.079	68.960	1.127	1	4	3	3	4	111.369	0.410	0.410	0.000	0.000	1.596	3.358	5.361	1.825	4.380	16.116	1.197	6.601	0.307	0.326	10.861	0.465	11.861	2.609	35.779	0.000	28.933	0.011	0.000	0.000	0.000	0.000	0.000	1.072	10.722	16.116
98		2.200	7.218	-2.200	-7.218	6.418	0.066	47.730	1.028	1	4	3	3	4	111.369	0.419	0.419	0.000	0.000	1.579	3.074	4.854	1.694	3.947	14.328	1.100	5.999	0.232	0.248	10.770	0.472	11.770	2.635	37.109	0.000	28.458	0.017	0.000	0.000	0.000	0.000	0.000	0.971	9.708	14.328
99		2.250	7.382	-2.250	-7.382	6.091	0.062	49.800	1.018	1	4	3	3	4	111.369	0.428	0.428	0.000	0.000	1.562	2.918	4.557	1.632	3.701	13.236	1.095	5.663	0.255	0.274	9.603	0.435	10.603	2.665	38.601	0.000	28.157	0.028	0.000	0.000	0.000	0.000	0.000	0.911	9.114	13.236
100		2.300	7.546	-2.300	-7.546	6.361	0.068	54.620	1.069	1	4	3	3	4	111.369	0.437	0.437	0.000	0.000	1.546	3.047	4.709	1.705	3.792	13.557	1.148	5.924	0.268	0.288	9.655	0.446	10.655	2.665	38.635	0.000	28.314	0.025	0.000	0.000

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
123	3.450	11.319	-3.450	-11.319	36.590	2.125	-12.750	5.808	3	4	8	6	8	111.369	0.651	0.641	0.010	0.318	1.277	35.054	44.749	9.641	15.432	56.111	5.913	35.940	-0.011	-0.011	56.748	3.543	57.748	2.632	36.955	44.227	35.759	-0.586	3.112	113.916	0.000	0.000	4.475	44.749	56.111
124	3.500	11.483	-3.500	-11.483	34.895	2.030	-13.580	5.817	3	3	7	6	8	111.369	0.660	0.645	0.015	0.483	1.273	33.430	42.543	9.272	14.733	53.118	5.929	34.236	-0.013	-0.013	53.799	3.384	54.799	2.649	37.792	0.000	0.000	0.000	0.000	0.000	2.283	0.000	10.000	4.254	42.543	53.118
125	3.550	11.647	-3.550	-11.647	28.059	1.857	-14.580	6.618	3	3	7	6	8	111.369	0.669	0.649	0.020	0.647	1.269	26.881	34.103	7.899	12.411	42.234	6.780	27.390	-0.017	-0.017	42.967	2.732	43.967	2.758	43.637	0.000	0.000	0.000	0.000	0.000	1.827	0.000	10.000	3.410	34.103	42.234
126	3.600	11.811	-3.600	-11.811	24.634	1.579	-12.100	6.410	3	3	7	6	8	111.369	0.678	0.653	0.025	0.811	1.265	23.600	29.848	7.058	10.980	36.712	6.591	23.957	-0.016	-0.017	37.330	2.396	38.330	2.791	45.450	0.000	0.000	0.000	0.000	0.000	1.598	0.000	10.000	2.985	29.848	36.712
127	3.650	11.975	-3.650	-11.975	27.383	1.352	-5.970	4.937	3	4	7	6	3	111.369	0.687	0.657	0.030	0.975	1.261	26.233	33.077	7.383	11.443	40.660	5.064	26.696	-0.008	-0.008	40.990	2.641	41.990	2.677	39.245	35.564	34.315	-0.385	3.591	98.373	0.000	0.000	0.000	3.308	33.077	40.660
128	3.700	12.139	-3.700	-12.139	26.347	1.436	-8.460	5.450	3	3	7	6	3	111.369	0.696	0.661	0.036	1.139	1.257	25.241	31.729	7.274	11.191	38.831	5.598	25.651	-0.011	-0.012	39.285	2.549	40.285	2.722	41.648	0.000	0.000	0.000	0.000	0.000	1.711	0.000	10.000	3.173	31.729	38.831
129	3.750	12.303	-3.750	-12.303	28.474	1.550	-7.410	5.444	3	3	7	6	3	111.369	0.706	0.665	0.041	1.303	1.253	27.278	34.186	7.767	11.898	41.783	5.582	27.768	-0.010	-0.010	42.192	2.750	43.192	2.699	40.425	0.000	0.000	0.000	0.000	0.000	1.852	0.000	10.000	3.419	34.186	41.783
130	3.800	12.467	-3.800	-12.467	31.615	1.744	5.570	5.516	3	4	7	6	3	111.369	0.715	0.669	0.046	1.467	1.249	30.287	37.843	8.507	12.981	46.216	5.644	30.900	0.004	0.004	46.025	3.012	47.025	2.673	39.045	39.423	34.958	-0.487	3.377	106.819	0.000	0.000	0.000	3.784	37.843	46.216
131	3.850	12.631	-3.850	-12.631	30.187	2.003	10.750	6.635	3	3	7	6	8	111.369	0.724	0.673	0.051	1.632	1.246	28.919	36.026	8.454	12.805	43.804	6.798	29.464	0.009	0.010	43.381	2.860	44.381	2.749	43.099	0.000	0.000	0.000	0.000	0.000	1.965	0.036	10.000	3.603	36.026	43.804
132	3.900	12.795	-3.900	-12.795	32.494	2.084	2.310	6.413	3	3	7	6	8	111.369	0.733	0.677	0.056	1.796	1.242	31.130	38.665	8.948	13.493	46.941	6.561	31.762	0.000	0.001	46.917	3.106	47.917	2.717	41.381	0.000	0.000	0.000	0.000	0.000	2.118	0.002	10.000	3.866	38.665	46.941
133	3.950	12.959	-3.950	-12.959	33.601	1.819	-1.430	5.414	3	4	7	6	3	111.369	0.742	0.681	0.061	1.960	1.238	32.190	39.863	8.953	13.427	48.277	5.536	32.859	-0.003	-0.003	48.432	3.223	49.432	2.654	38.066	40.913	35.206	-0.482	3.295	110.748	0.000	0.000	0.000	3.986	39.863	48.277
134	4.000	13.123	-4.000	-13.123	36.982	2.393	0.320	6.471	3	3	8	6	8	111.369	0.751	0.685	0.066	2.124	1.235	35.429	43.746	10.014	14.957	52.918	6.605	36.231	-0.002	-0.002	53.001	3.542	54.001	2.685	39.678	0.000	0.000	0.000	0.000	0.000	2.416	0.000	10.000	4.375	43.746	52.918
135	4.050	13.287	-4.050	-13.287	40.803	2.687	10.080	6.585	3	9	8	6	8	111.369	0.760	0.689	0.071	2.288	1.231	39.089	48.125	0.000	0.000	58.145	6.710	40.043	0.006	0.006	57.792	3.879	58.792	2.664	0.000	46.312	36.106	-0.815	2.999	122.435	0.000	0.000	0.000	4.812	48.125	58.145
136	4.100	13.451	-4.100	-13.451	37.487	2.665	1.120	7.109	3	3	8	6	8	111.369	0.769	0.693	0.077	2.452	1.228	35.913	44.085	10.316	15.227	53.008	7.258	36.718	-0.001	-0.001	53.068	3.588	54.068	2.716	41.315	0.000	0.000	0.000	0.000	0.000	2.449	0.000	10.000	4.409	44.085	53.008
137	4.150	13.615	-4.150	-13.615	34.370	2.284	-3.180	6.645	3	3	7	6	8	111.369	0.779	0.697	0.082	2.616	1.224	32.927	40.303	9.485	13.889	48.216	6.799	33.592	-0.005	-0.005	48.475	3.302	49.475	2.721	41.594	0.000	0.000	0.000	0.000	0.000	2.240	0.000	10.000	4.030	40.303	48.216
138	4.200	13.779	-4.200	-13.779	34.674	1.996	3.830	5.756	3	3	7	6	8	111.369	0.788	0.701	0.087	2.781	1.221	33.218	40.543	9.332	13.586	48.360	5.890	33.886	0.001	0.001	48.313	3.310	49.313	2.674	39.072	0.000	0.000	0.000	0.000	0.000	2.260	0.004	10.000	4.054	40.543	48.360
139	4.250	13.943	-4.250	-13.943	36.270	2.007	8.020	5.533	3	4	7	6	8	111.369	0.797	0.705	0.092	2.945	1.217	34.747	42.288	9.639	13.963	50.336	5.658	35.473	0.004	0.004	50.112	3.451	51.112	2.649	37.804	42.606	35.488	-0.509	3.201	116.147	0.000	0.000	0.000	4.229	42.288	50.336
140	4.300	14.107	-4.300	-14.107	38.130	2.055	11.210	5.389	3	4	8	6	8	111.369	0.806	0.709	0.097	3.109	1.214	36.529	44.331	10.020	14.446	52.663	5.506	37.324	0.007	0.007	52.306	3.619	53.306	2.627	36.700	43.958	35.714	-0.494	3.127	119.271	0.000	0.000	0.000	4.433	44.331	52.663
141	4.350	14.271	-4.350	-14.271	43.965	2.173	24.790	4.943	4	4	8	6	8	114.551	0.815	0.713	0.102	3.273	1.210	28.079	33.977	11.316	14.778	60.528	5.036	43.150	0.015	0.016	59.586	4.138	60.586	2.586	34.664	47.956	36.380	-0.454	2.913	128.102	0.000	0.000	0.000	5.097	50.966	55.005
142	4.400	14.436	-4.400	-14.436	59.146	1.784	18.580	3.016	6	5	8	6	4	114.551	0.825	0.717	0.107	3.437	1.206	22.665	27.344	13.706	16.536	81.323	3.059	58.322	0.008	0.008	80.664	5.611	81.664	2.363	24.920	56.372	37.783	-0.313	2.512	148.623	0.000	0.000	0.000	6.836	68.360	68.360
143	4.450	14.600	-4.450	-14.600	89.124	1.340	8.640	1.504	7	6	9	6	5	117.733	0.834	0.722	0.112	3.601	1.203	28.460	34.231	11.927	21.561	122.359	1.518	88.290	0.002	0.002	122.141	8.512	123.141	2.022	13.565	68.037	39.727	-0.250	2.132	190.094	0.000	0.000	0.000	10.269	102.693	102.693
144	4.500	14.764	-4.500	-14.764	89.902	1.310	-2.940	1.457	8	6	9	6	5	120.915	0.844	0.727	0.118	3.765	1.199	21.531	25.814	18.005	21.587	122.630	1.471	89.058	-0.002	-0.002	122.918	8.621	123.918	2.011	13.259	68.194	39.753	-0.247	2.128	191.415	0.000	0.000	0.000	10.326	103.255	103.255
145	4.550	14.928	-4.550	-14.928	84.807	1.388	-3.640	1.637	7	6	9	6	5	117.733	0.854	0.731	0.123	3.929	1.195	27.082	32.364	17.350	20.734	114.864	1.653	83.954	-0.003	-0.003	115.187	8.135	116.187	2.066	14.796	66.430	39.459	-0.254	2.172	184.292	0.000	0.000	0.000	9.709	97.093	97.093
146	4.600	15.092	-4.600	-15.092	80.129	1.486	-6.630	1.855	7	5	9	6	5	117.733	0.863	0.736	0.128	4.094	1.191	25.588	30.484	16.768	19.977	107.781	1.875	79.265	-0.004	-0.004	108.236	7.696	109.236	2.123	16.500	64.715	39.173	-0.264	2.219	177.858	0.000	0.000	0.000	9.145	91.453	91.453
147	4.650	15.256	-4.650	-15.256	69.206	1.678	-6.990	2.425	6	5	8	6	5	114.551	0.873	0.740	0.133	4.258	1.188	26.520	31.501	15.278	18.147	92.363	2.456	68.334	-0.005	-0.005	92.838	6.651	93.838	2.252	20.767	60.429	38.459	-0.288	2.355	163.042	0.000	0.000	0.000	7.875	78.752	78.752
148	4.700	15.420	-4.700	-15.420	54.052	1.864	-7.760	3.326	6	5	8	6	4	114.551	0.882	0.744	0.138	4.422	1.184	21.479	25.440	13.304	15.757	74.141	3.379	55.170	-0.007	-0.007	74.652	5.393	75.652	2.416	27.052	56.303	37.438	-0.327	2.602	145.897	0.000	0.000	0.000	6.360	63.599	63.599
149	4.750	15.584	-4.750	-15.584	46.682	1.841	-6.120	3.944	5	4	8	6	4	114.551	0.892	0.749	0.143	4.586	1.181	22.361	26.408	11.669	13.782	61.185	4.020	45.790	-0.007	-0.007	61.632	4.490	62.632	2.526	31.860	48.978	36.550	-0.352	2.860	133.547	0.000	0.000	0.000	5.282	52.816	52.816
150	4.800	15.748	-4.800	-15.748	42.557	1.967	-6.960	4.622	4	4	8	6	4	114.551	0.901	0.753	0.148	4.750	1.178	27.179	32.008	10.954	13.772	55.345	4.722	41.656	-0.009	-0.009	55.830	4.098	56.830	2.586	34.667	46.244	36.095	-0.404	3.003	127.850	0.000	0.000	0.000	4.801	48.012	51.257
151	4.850	15.912	-4.850	-15.912	32.758	1.766	-5.080	5.391	3	3	7	6	3	111.369	0.910	0.757	0.153	4.914	1.174	31.382	36.856	8.916	11.956	42.082	5.545	31.848	-0.010	-0.010	42.494	3.153	43.494	2.695	40.201	0.000	0.000	0.000	0.000	0.000	2.124	0.000	10.000	3.686	36.856	42.082
152	4.900	16.076	-4.900	-16.076	32.690	1.892	7.780	5.788	3	3	7	6	3	111.369	0.920	0.761	0.158	5.078	1.171	31.317	36.682	9.016	12.022	41.758	5.955	31.771	-0.000	-0.000	41.771	3.117	42.771	2.720	41.535	0.000	0.000	0.000	0.000	0.000	2.119	0.000	10.000	3.668	36.682	41.758
153	4.950	16.240	-4.950	-16.240	33.142	1.550	11.570	4.677	4	4	7	6	3	114.551	0.929	0.765	0.164	5.243	1.168	21.167	24.726	8.814	11.690	42.112	4.812	32.214	0.006	0.006	41.853	3.140	42.853	2.650	37.875	38.845	34.862	-0.362	3.409	113.043	0.000	0.000	0.000	3.709	37.089	42.112
154	5.000	16.404	-5.000	-16.404	40.606	2.101	40.970	5.174	3	4	7	6	3	111.369	0.938	0.769	0.169	5.407	1.165	38.900	45.319	10.636	14.102	51.577	5.296	39.668	0.027	0.028	50.133	3.768	51.133	2.621	36.377	44.590	35.819	-0.454	3.092	125.616	0.000	0.000	0.000	4.532	45.319	51.577
155	5.050	16.568	-5.050	-16.568	46.492	2.586	8.400	5.562	3	4	8	6	8	111.369	0.947	0.773	0.174	5.571	1.162	44.540	51.754	12.083	15.982	58.911	5.678	45.546	0.002	0.002	58.797	4.429	59.797	2.605	35.608	48.396	36.453	-0.549	2.890	134.403	0.000	0.000	0.000	5.175	51.754	58.911
156	5.100	16.732	-5.100	-16.732	42.404	2.442	-2.520	5.759	3	4	8	6	8	111.369	0.956	0.777	0.179	5.735	1.159	40.623	47.081	11.249	14.768	53.335	5.892	41.448	-0.006	-0.006	53.666	4.070	54.666	2.646	37.626	45.683	36.001	-0.568	3.033	128.670	0.000	0.000	0.000	4.708	47.081	53.335
157	5.150	16.896	-5.150	-16.896	55.711	1.725	64.180	2.625	6	5	8	6	4	114.551	0.966	0.782	0.184	5.899	1.156	29.106	34.180	14.817	17.127	82.871	2.664	64.745	0.023	0.028	80.543	5.103	81.543	2.301	22.552	59.162	38.081	-0.285	2.429	160.350	0.000	0.000	0.000	7.276	72.764	72.764
158	5.200	17.060	-5.200	-17.060	92.252	1.180	-1.210	1.279	8	6	9	6	5	120.915	0.975	0.786	0.189	6.063	1.153	22.094	25.465	18.237	21.019	116.157	1.293	91.277	-0.002	-0.002	116.445	8.841	117.445	1.977	12.347	67.803	39.688	-0.227	2.138	197.338	0.000	0.000	0.000	10.186	101.859	101.859
159	5.250	17.224	-5.250	-17.224	62.974	0.697	-7.340	1.107	8	6	8	6	5	120.915	0.985	0.791	0.194	6.227	1.149	15.082	17.330	12.885	14.806	78.407	1.124	61.989	-0.007	-0.007	78.942	6.055	79.942	2.066	14.808	56.772	37.850	-0.176	2.497	157.294	0.000	0.000	0.000	6.932	69.321	69.321
160	5.300	17.388	-5.300	-17.388	46.485	0.613	-5.540	1.319	7	5	8	6	5	117.733	0.995	0.796	0.199	6.392	1.146	14.844	17.007	10.125	11.599	57.201	1.348	45.491	-0.008	-0.008	57.669	4.470	58.669	2.220	19.659	47.986	36.385	-0.162	2.914	135.505	0.000	0.000	0.000	5.102	51.020	51.020
161	5.350	17.552	-5.350	-17.552	40.440	0.604	88.150	1.494	7	5	7	5	4	117.733	1.005	0.800	0.205	6.556	1.142	12.914	14.753	9.126	10.425	49.307	1.532	39.436	0.063	0.065	46.122	3.611	47.122	2.302	22.613	43.912	35.706	-0.152	3.133	126.765	0.000	0.000	0.000	4.526	44.259	44.259
162	5.400	17.716	-5.400	-17.716	41.838	0.968	150.320	2.314	6	5	7	5	5	114.551	1.014	0.805	0.210	6.720	1.139	13.032	16.205	9.317	11.298	50.763	2.371	40.825	0.107	0.110	45.199	3.559	46.199	2.413	24.807	45.855	36.199	-0.086	3.086	129.148	0.000	0.000	0.000	4.566	45.664	45.664
163	5.450	17.880	-5.450	-17.880	40.870	1.298	123.310	3.176	5	4	6	6	4	114.551	1.024	0.809	0.215	6.884	1.136	19.577	22.244	10.159	11.543	49.285	3.257	39.847	0.089	0.091	44.790	3.547	45.790	2.514	31.326	44.060	35.731	-0.250	3.127	127.865	0.000	0.000	0.000	4.449	44.488	44.488
164	5.500	18.044	-5.500	-18.044	42.239	1.370	99.080	3.243	5	4	7	6	4	114.551	1.033	0.813	0.220	7.048	1.133	20.232	22.929	10.482	11.879	50.698	3.325	41.206	0.068	0.070	47.164	3.750	48.164	2.511	31.174	44.928	35.875	-0.262	3.081	130.190	0.000	0.000	0.000	4.586	45.857	45.857
165	5.550	18.208	-5.550	-18.208	70.605	1.211	193.070	1.715	7	5	7	6	5	117.733	1.043	0.818	0.225	7.212	1.130	22.547	25.483	14.982	16.933	85.127	1.741	69.563	0.082	0.083	78.027	6.187	79.027	2.157	17.573	59.577	38.317	-0.220	2.393	168.996	0.000	0.000	0.000	7.645	76.448	76.448
166	5.600	18.372	-5.600	-18.372	95.364	1.095	21.420	1.148	8	6	9	6	5	120.915	1.052	0.822	0.230	7.376	1.127	22.840	25.740	18.607	20.970	114.757	1.161	94.312	0.005	0.005	114.224	9.072	115.224	1.943	11.452	68.112	39.739	-0.215	2.137	203.917	0.000	0.000	0.000	10.296	102.961	102.961
167	5.650	18.537	-5.650	-18.537	98.901	1.218	-6.230	1.355	8	6	9	6	5	120.915	1.062	0.827	0.235	7.539	1.124	23.531	26.195	18.003	20.231	107.471	1.315	91.992	0.041	0.042	107.071	8.631	108.991	2.011	13.266	66.338	39.444	-0.226	2.183	198.322	0.000	0.000	0.000	9.678	96.781	96.781
168	5.700	18.701	-5.700	-18.701	82.463	1.486	-7.580	1.802	7	5	9	6	5	117.733	1.072	0.832	0.240	7.705	1.121	26.333	29.508	17.271	19.353	97.908	1.826	81.391	-0.006	-0.006	98.482	7.923	99.482	2.125	16.563	63.781	39.018	-0.250	2.255	186.057	0.000	0.000	0.000	8.852	88.524	88.524
169	5.750	18.865	-5.750	-18.865	69.284	1.922	-5.790	2.774	6	5	8	6	4	114.551	1.082	0.836	0.246	7.869	1.118	26.550	29.672	15.703	17.550	81.611	2.818	68.203	-0.006	-0.006	82.121	6.655	83.121	2.313	22.989	58.714	38.173	-0.298	2.429	168.341	0.000	0.000	0.000	7.418	74.180	74.180
170	5.800	19.029	-5.800	-19.029	64.570	2.047	-4.860	3.170	6	5	8	6	4	114.551	1.091	0.840	0.251	8.033	1.115	24.743	27.583	15.058	16.786	75.572	3.225	63.479	-0.006	-0.006	76.051	6.200	77.051	2.377	25.475	56.621	37.824	-0.318	2.513	162.352	0.000	0.000	0.000	6.896	68.957	68.957
171	5.850	19.193	-5.850	-19.193	72.589	1.765	4.600	2.432	6	5	8	6	5	114.551	1.100	0.845	0.256	8.197	1.112	27.816	30.930	16.074	17.873	84.677	2.469	71.489	-0.002	-0.002	84.810	6.940	85.810	2.259	21.023	59.904	38.371	-0.278	2.386	173.276	0.000	0.000	0.000	7.732	77.324	77.324
172	5.900	19.357	-5.900	-19.357	69.241	1.503	-7.910	2.171	6	5	8	6	4	114.551	1.110	0.849	0.261	8.361	1.109	22.111	24.522	15.208	16.866	80.281	2.206	68.131	-0.007	-0.007	80.879	6.657	81.879	2.240	20.342	57.476	38.133	-0.255	2.441	169.056	0.000	0.000	0.000	7.357	73.566	73.566
173	5.950	19.521	-5.950	-19.521	57.159	1.764	-9.730	3.086	6	5	8	6	4	114.551	1.119	0.853	0.266	8.525	1.106	21.903	24.229	13.521	14.957	65.693	3.148	56.040	-0.010	-0.010	66.361	5.505	67.361	2.408	26.751	52.906	37.205	-0.295	2.681	153.330	0.000	0.000	0.000	6.057	60.573	60.573
174	6.000	19.685	-6.000	-19.685	50.557	1.707	-3.620	3.376	5	4	8	6	4	114.551	1.129	0.858	0.271	8.689	1.103	24.217	26.722	12.336	13.611	57.654	3.453	49.429	-0.008	-0.008	58.102	4.854	59.102	2.475	29.585	49.316	36.607	-0.299	2.859	144.611	0.000	0.000	0.000	5.344	53.443	53.443
175	6.050	19.849	-6.050	-19.849	88.100	1.489	28.830	1.690	7	5	8	6	5	117.733	1.138	0.862	0.276	8.854	1.101	28.133	30.963	18.199	20.029	100.914	1.712	86.962	0.007	0.007	100.190	8.354	101.190	2.090	15.515	65.161	39.248	-0.244	2.221	195.782	0.000	0.000	0.000	9.289	92.890	92.890
176	6.100	20.013	-6.100	-20.013	76.090	1.117	-8.040	1.468	7	5	8	6	5	117.733	1.148	0.867	0.281	9.018	1.098	24.298	26.672	15.759	17.299	86.511	1.490	74.942	-0.007	-0.007	87.125	7.313	88.125	2.097	15.711	60.885	38.535	-0.214	2.356	179.321	0.000	0.000	0.000	8.002	80.017	80.017
177	6.150	20.177	-6.150	-20.177	59.886	1.101	-8.700	1.839	7	5	8	6	5	117.733	1.158	0.871	0.287	9.182	1.095	19.123	20.937	13.164	14.413	67.441	1.875	58.728	-0.009	-0.010	68.082	5.763	69.082	2.241	20.415	53.946	37.378	-0.215	2.637	157.979	0.000	0.000	0.000	6.281	62.812	62.812
178	6.200	20.341	-6.200	-20.341	49.467	1.304	13.950	2.636	6	5	8	6	4	114.551	1.167	0.876	0.292	9.346	1.092	18.956	20.701	11.713	12.792	55.187	2.700	48.300	0.003	0.003	55.022	4.697	56.022	2.411	26.842	48.395	36.453	-0.242	2.911	144.047	0.000	0.000	0.000	5.175	51.754	51.754
179	6.250	20.505	-6.250	-20.505	53.365	1.270	31.170	2.380	6	5	8	6	4	114.551	1.177	0.880	0.297	9.510	1.089	20.449	22.278	12.332	13.434	59.339	2.433	52.188	0.013	0.013	58.570	5.019	59.570	2.356	24.670	50.499	36.804	-0.233	2.804	149.708	0.000	0.000	0.000	5.570	55.695	55.695
180	6.300	20.669	-6.300	-20.669	45.734	1.358	16.720	2.969	6	4	8	6	4	114.551	1.186	0.884	0.302	9.674	1.087	17.525	19.047	11.148	12.115	50.408	3.048	44.549	0.005	0.005	50.159	4.331	51.159	2.473	29.493	46.007	36.055	-0.252	3.039	139.063	0.000	0.000	0.000	4.762	47.616	47.616
181	6.350	20.833	-6.350	-20.833	38.388	1.365	62.230	3.556	5	4	7	6	4	114.551	1.195	0.888	0.307	9.838	1.084	18.288	19.936	9.874	10.706	41.883	3.670	37.194	0.043	0.044	40.041	3.492	41.041	2.584	34.624	40.919	35.207	-0.262	3.221	127.523	0.000	0.000	0.000	3.987	39.872	39.872
182	6.400	20.997	-6.400	-20.997	67.565	1.375	113.000	2.035	7	5	8	6	5	117.733	1.205	0.893	0.312	10.003	1.081	21.576	23.334	14.819	16.027	74.358	2.072	66.361	0.048	0.048	70.756	6.135	71.756	2.236	20.231	57.053	37.896	-0.231	2.506	169.418	0.000	0.000	0.000	7.000	70.003	70.003
183	6.450	21.161	-6.450	-21.161	97.009	0.826	-0.140	0.851	8	6	9	6	6	120.915	1.215	0.897	0.317	10.167	1.079	23.234	25.062	18.416	19.865	106.781	0.862	95.795	-0.003	-0.003	107.140	9.294	108.140	1.869	9.659	67.346

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
245	9.550	31.332	-9.550	-31.332	28.274	1.003	19.830	3.547	5	4	7	5	3	114.551	1.821	1.186	0.635	20.343	0.938	13.543	12.708	8.060	6.640	22.312	3.792	26.454	-0.001	-0.001	22.325	2.649	23.325	2.781	44.930	0.000	33.056	-0.185	0.000	0.000	0.000	0.000	2.542	25.415	22.312
246	9.600	31.496	-9.600	-31.496	24.543	0.999	24.520	4.070	4	3	7	5	3	114.551	1.830	1.190	0.640	20.507	0.937	15.675	14.681	7.376	5.988	19.089	4.398	22.713	0.005	0.006	18.983	2.278	19.983	2.875	50.440	0.000	0.000	0.000	0.000	1.515	0.016	6.588	2.202	22.022	19.089
247	9.650	31.660	-9.650	-31.660	24.206	0.842	42.540	3.479	5	3	6	5	3	114.551	1.840	1.195	0.645	20.672	0.935	11.594	10.840	7.122	5.752	18.730	3.765	22.367	0.028	0.031	18.158	2.192	19.158	2.838	48.211	0.000	0.000	0.000	0.000	1.492	0.085	6.396	2.168	21.680	18.730
248	9.700	31.824	-9.700	-31.824	23.239	0.722	118.340	3.107	5	4	5	4	3	114.551	1.849	1.199	0.650	20.836	0.933	11.131	10.389	6.786	5.440	17.848	3.375	21.390	0.131	0.142	15.309	1.872	16.309	2.825	47.422	0.000	32.093	-0.113	0.000	0.000	0.000	0.000	2.078	20.777	17.848
249	9.750	31.988	-9.750	-31.988	26.916	0.911	127.530	3.385	5	5	4	5	5	114.551	1.859	1.203	0.655	21.000	0.932	12.893	12.011	7.720	6.238	20.835	3.636	25.058	0.124	0.133	18.070	2.197	19.070	2.793	45.563	0.000	32.787	-0.147	0.000	0.000	0.000	0.000	2.402	24.022	20.835
250	9.800	32.152	-9.800	-32.152	28.568	1.120	42.940	3.920	5	3	7	5	3	114.551	1.868	1.207	0.660	21.164	0.930	13.684	12.726	8.287	6.699	22.122	4.195	26.701	0.024	0.025	21.558	2.608	22.558	2.813	46.736	0.000	0.000	0.000	0.000	1.781	0.085	8.301	2.545	25.451	22.122
251	9.850	32.316	-9.850	-32.316	33.762	1.350	88.440	3.999	5	4	6	5	3	114.551	1.877	1.212	0.666	21.328	0.928	16.172	15.013	9.507	7.738	26.324	4.234	31.886	0.062	0.066	24.594	2.970	25.594	2.759	43.662	32.790	33.852	-0.225	3.860	130.381	0.000	0.000	3.003	30.026	26.324
252	9.900	32.480	-9.900	-32.480	36.621	1.583	27.380	4.323	4	4	7	5	3	114.551	1.887	1.216	0.671	21.492	0.927	23.389	21.674	10.286	8.378	28.576	4.557	34.735	0.005	0.005	28.424	3.426	29.424	2.754	43.402	35.069	34.232	-0.271	3.734	136.807	0.000	0.000	3.251	32.511	28.576
253	9.950	32.644	-9.950	-32.644	34.065	1.399	-16.820	4.107	4	4	7	5	3	114.551	1.896	1.220	0.676	21.656	0.925	21.756	20.126	9.630	7.782	26.373	4.349	32.170	-0.035	-0.037	27.357	3.314	28.357	2.766	44.065	32.945	33.878	-0.250	3.854	131.338	0.000	0.000	3.019	30.189	26.373
254	10.000	32.808	-10.000	-32.808	33.692	1.182	-4.500	3.508	5	4	7	5	3	114.551	1.906	1.225	0.681	21.821	0.923	16.138	14.903	9.321	7.499	25.968	3.718	31.787	-0.024	-0.026	26.639	3.241	27.639	2.726	41.848	32.579	33.817	-0.206	0.000	0.000	0.000	0.000	2.981	29.806	25.968
255	10.050	32.972	-10.050	-32.972	31.982	0.798	-9.250	2.495	6	4	7	5	4	114.551	1.915	1.229	0.686	21.985	0.922	12.256	11.298	8.513	6.801	24.478	2.654	30.068	-0.030	-0.032	25.271	3.092	26.271	2.652	37.961	31.037	33.560	-0.146	0.000	0.000	0.000	0.000	2.824	28.244	24.478
256	10.100	33.136	-10.100	-33.136	25.267	0.648	23.610	2.565	6	4	7	5	4	114.551	1.924	1.233	0.691	22.149	0.920	9.682	8.910	7.089	5.547	18.938	2.776	23.344	0.002	0.002	18.901	2.350	19.901	2.752	43.290	0.000	32.426	-0.116	0.000	0.000	0.000	0.000	2.228	22.275	18.938
257	10.150	33.300	-10.150	-33.300	18.716	0.685	52.170	3.660	4	3	6	4	3	114.551	1.934	1.237	0.696	22.313	0.919	11.953	10.981	5.950	4.502	13.568	4.082	16.783	0.050	0.056	12.814	1.637	13.814	2.969	56.429	0.000	0.000	0.000	0.000	1.119	0.117	3.921	1.647	16.471	13.568
258	10.200	33.464	-10.200	-33.464	17.955	0.682	50.470	3.798	4	3	6	4	3	114.551	1.943	1.242	0.701	22.477	0.917	11.467	10.516	5.810	4.358	12.901	4.259	16.013	0.049	0.055	12.197	1.569	13.197	2.998	58.334	0.000	0.000	0.000	0.000	1.068	0.109	3.641	1.577	15.774	12.901
259	10.250	33.628	-10.250	-33.628	23.667	0.911	113.240	3.849	4	3	5	4	3	114.551	1.953	1.246	0.707	22.641	0.915	15.115	13.838	7.183	5.524	17.435	4.195	21.715	0.120	0.130	15.164	1.929	16.164	2.892	51.484	0.000	0.000	0.000	0.000	1.448	0.354	5.726	2.076	20.757	17.435
260	10.300	33.792	-10.300	-33.792	27.047	1.325	23.500	4.899	3	3	7	5	3	111.369	1.962	1.250	0.712	22.805	0.914	25.911	23.682	8.300	6.431	20.075	5.282	25.086	0.001	0.001	20.057	2.521	21.057	2.911	52.664	0.000	0.000	0.000	0.000	1.673	0.003	7.126	2.368	23.682	20.075
261	10.350	33.956	-10.350	-33.956	21.357	1.404	-19.680	6.574	3	3	6	4	3	111.369	1.971	1.254	0.717	22.970	0.913	20.460	18.670	7.316	5.530	15.465	7.242	19.387	-0.062	-0.069	16.526	2.105	17.526	3.087	64.511	0.000	0.000	0.000	0.000	1.293	0.000	4.768	1.867	18.670	15.465
262	10.400	34.120	-10.400	-34.120	19.049	1.510	-11.320	7.927	3	3	6	4	2	111.369	1.980	1.258	0.722	23.134	0.911	18.249	16.626	6.990	5.199	13.573	8.846	17.070	-0.056	-0.063	14.428	1.859	15.428	3.187	71.999	0.000	0.000	0.000	0.000	1.138	0.000	3.923	1.663	16.626	13.573
263	10.450	34.284	-10.450	-34.284	26.978	1.646	4.430	6.101	3	3	7	5	3	111.369	1.989	1.262	0.727	23.298	0.910	25.845	23.508	8.632	6.616	19.807	6.587	24.989	-0.022	-0.024	20.273	2.571	21.273	2.980	57.131	0.000	0.000	0.000	0.000	1.667	0.000	6.978	2.351	23.508	19.807
264	10.500	34.448	-10.500	-34.448	28.443	1.966	-13.930	6.912	3	3	7	5	3	111.369	1.998	1.266	0.732	23.462	0.908	27.248	24.746	9.212	7.064	20.895	7.434	26.446	-0.041	-0.044	21.816	2.766	22.816	2.999	58.435	0.000	0.000	0.000	0.000	1.764	0.000	7.588	2.475	24.746	20.895
265	10.550	34.612	-10.550	-34.612	29.058	2.042	-16.340	7.027	3	3	7	5	3	111.369	2.007	1.270	0.737	23.626	0.907	27.838	25.241	9.403	7.197	21.306	7.549	27.051	-0.043	-0.046	22.288	2.833	23.288	2.998	58.340	0.000	0.000	0.000	0.000	1.804	0.000	7.824	2.524	25.241	21.306
266	10.600	34.776	-10.600	-34.776	25.137	1.823	-16.430	7.252	3	3	7	5	3	111.369	2.017	1.274	0.742	23.790	0.905	24.082	21.801	8.468	6.383	18.153	7.884	23.122	-0.050	-0.054	19.139	2.457	20.139	3.061	62.685	0.000	0.000	0.000	0.000	1.542	0.000	6.094	2.180	21.801	18.153
267	10.650	34.941	-10.650	-34.941	24.823	1.658	-12.310	6.679	3	3	7	5	3	111.369	2.026	1.278	0.748	23.954	0.904	23.781	21.494	8.262	6.199	17.843	7.272	22.798	-0.046	-0.050	18.729	2.415	19.729	3.042	61.376	0.000	0.000	0.000	0.000	1.521	0.000	5.934	2.149	21.494	17.843
268	10.700	35.105	-10.700	-35.105	25.504	1.301	-4.120	5.101	3	3	7	5	3	111.369	2.035	1.282	0.753	24.119	0.902	24.433	22.050	8.035	6.022	18.312	5.543	23.470	-0.035	-0.038	18.999	2.456	19.999	2.954	55.464	0.000	0.000	0.000	0.000	1.565	0.000	6.176	2.205	22.050	18.312
269	10.750	35.269	-10.750	-35.269	33.926	1.300	-3.910	3.832	5	4	7	5	3	114.551	2.044	1.286	0.758	24.283	0.901	16.250	14.641	9.598	7.322	24.795	4.078	31.882	-0.026	-0.028	25.478	3.262	26.478	2.767	44.139	32.072	33.733	-0.221	0.000	0.000	0.000	0.000	2.928	29.283	24.795
270	10.800	35.433	-10.800	-35.433	54.581	1.078	-1.460	1.975	7	5	8	6	5	117.733	2.054	1.291	0.763	24.447	0.899	17.429	15.677	12.644	11.373	40.711	2.052	52.528	-0.015	-0.015	41.337	5.233	42.337	2.362	24.896	45.653	35.996	-0.172	1.155	172.250	0.000	0.000	4.703	47.031	47.031
271	10.850	35.597	-10.850	-35.597	78.095	1.047	4.080	1.341	8	5	8	6	5	120.915	2.063	1.295	0.768	24.611	0.898	18.704	16.793	16.406	14.729	58.716	1.377	76.033	-0.008	-0.008	59.210	7.469	60.210	2.132	16.794	55.870	37.699	-0.167	2.641	206.348	0.000	0.000	6.717	67.172	67.172
272	10.900	35.761	-10.900	-35.761	103.323	0.905	-1.060	0.876	8	6	9	6	5	120.915	2.073	1.300	0.773	24.775	0.896	24.746	22.177	19.992	17.916	77.902	0.894	101.251	-0.008	-0.008	78.522	9.902	79.522	1.921	10.893	63.840	39.028	-0.154	2.345	242.382	0.000	0.000	8.871	88.706	88.706
273	10.950	35.925	-10.950	-35.925	120.747	0.563	-0.480	0.466	9	6	9	6	6	124.097	2.083	1.305	0.778	24.939	0.894	23.135	20.694	21.654	19.369	90.955	0.474	118.664	-0.007	-0.007	91.562	11.569	92.562	1.709	5.000	68.253	39.763	-0.115	2.223	268.523	0.000	0.000	10.347	103.469	103.469
274	11.000	36.089	-11.000	-36.089	131.203	0.681	0.450	0.519	9	6	9	6	6	124.097	2.094	1.310	0.783	25.103	0.893	25.138	22.442	23.489	20.970	98.579	0.527	129.110	-0.006	-0.006	99.166	12.568	100.166	1.704	6.195	70.578	40.150	-0.131	2.167	284.446	0.000	0.000	11.221	112.212	112.212
275	11.050	36.253	-11.050	-36.253	133.814	0.795	24.650	0.594	9	6	9	6	6	124.097	2.104	1.315	0.789	25.267	0.891	25.639	22.845	24.180	21.545	100.178	0.604	131.711	-0.000	-0.000	100.192	12.746	101.192	1.731	6.709	71.087	40.235	-0.143	2.156	288.619	0.000	0.000	11.422	114.224	114.224
276	11.100	36.417	-11.100	-36.417	132.922	0.849	22.770	0.639	9	6	9	6	6	124.097	2.114	1.320	0.794	25.432	0.889	25.468	22.649	24.200	21.521	99.111	0.649	130.809	-0.001	-0.001	99.173	12.666	100.173	1.752	7.134	70.841	40.194	-0.148	2.163	287.584	0.000	0.000	11.325	113.246	113.246
277	11.150	36.581	-11.150	-36.581	117.486	0.981	21.810	0.835	9	6	9	6	6	124.097	2.124	1.325	0.799	25.596	0.888	22.510	19.981	22.283	19.779	87.074	0.850	115.363	-0.001	-0.001	87.163	11.190	88.163	1.866	9.600	67.248	39.595	-0.160	2.253	264.765	0.000	0.000	0.000	9.990	99.903	99.903
278	11.200	36.745	-11.200	-36.745	102.942	1.018	25.950	0.989	8	6	9	6	5	120.915	2.134	1.330	0.804	25.760	0.886	24.655	21.843	20.204	17.900	75.807	1.010	100.809	0.000	0.000	75.802	9.784	76.802	1.958	11.850	63.406	38.955	-0.162	2.364	243.486	0.000	0.000	8.737	87.374	87.374
279	11.250	36.909	-11.250	-36.909	97.952	0.952	34.740	1.025	8	6	9	6	5	120.915	2.144	1.335	0.809	25.924	0.884	22.249	19.676	18.554	16.409	68.000	1.049	90.754	0.003	0.003	67.794	8.796	68.794	2.004	11.554	59.456	38.155	-0.165	2.467	229.264	0.000	0.000	7.871	78.706	78.706
280	11.300	37.073	-11.300	-37.073	88.925	1.043	40.860	1.173	8	5	9	6	5	120.915	2.154	1.340	0.814	26.088	0.883	21.298	18.801	18.127	16.002	64.784	1.202	86.772	0.005	0.005	64.439	8.397	65.439	2.057	14.531	59.108	38.239	-0.162	2.517	223.901	0.000	0.000	0.000	7.521	75.206	75.206
281	11.350	37.237	-11.350	-37.237	81.784	1.085	45.500	1.327	8	5	8	6	5	120.915	2.164	1.345	0.819	26.252	0.881	19.587	17.261	17.097	15.066	59.233	1.363	79.621	0.007	0.008	58.786	7.699	59.786	2.120	16.418	56.657	37.830	-0.165	2.617	214.155	0.000	0.000	0.000	6.904	69.043	69.043
282	11.400	37.401	-11.400	-37.401	79.286	1.451	47.440	1.830	7	5	8	6	5	117.733	2.174	1.349	0.824	26.416	0.880	25.319	22.273	17.290	15.210	57.169	1.882	77.113	0.008	0.009	56.682	7.454	57.682	2.223	19.761	55.718	37.674	-0.196	2.659	210.925	0.000	0.000	0.000	6.682	66.818	66.818
283	11.450	37.565	-11.450	-37.565	80.264	1.419	82.390	1.768	7	5	8	6	5	117.733	2.183	1.354	0.829	26.581	0.878	25.631	22.510	17.404	15.285	57.693	1.817	78.082	0.022	0.022	56.405	7.443	57.405	2.209	19.300	56.022	37.724	-0.191	2.647	212.534	0.000	0.000	0.000	6.753	67.529	67.529
284	11.500	37.729	-11.500	-37.729	122.781	1.614	78.660	1.315	8	6	9	6	6	120.915	2.193	1.359	0.835	26.745	0.877	29.406	25.781	24.331	21.331	88.794	1.338	120.583	0.013	0.013	87.601	11.527	88.157	1.647	12.511	68.157	39.747	-0.203	2.235	274.556	0.000	0.000	10.312	103.122	103.122
285	11.550	37.893	-11.550	-37.893	166.073	1.298	10.100	0.782	9	6	9	6	6	124.097	2.203	1.364	0.840	26.909	0.875	31.820	27.846	30.054	26.301	120.228	0.792	163.871	-0.003	-0.003	120.613	15.880	121.613	1.735	6.792	76.762	41.181	-0.184	2.034	337.884	0.000	0.000	0.000	13.923	139.231	139.231
286	11.600	38.057	-11.600	-38.057	186.212	1.158	11.500	0.622	9	6	9	6	6	124.097	2.213	1.369	0.845	27.073	0.874	35.678	31.165	32.549	28.431	134.497	0.629	183.999	-0.003	-0.003	134.852	17.805	135.852	1.634	4.931	79.990	41.719	-0.173	1.968	366.525	0.000	0.000	0.000	15.583	155.826	155.826
287	11.650	38.221	-11.650	-38.221	200.798	1.392	14.060	0.693	9	6	9	6	6	124.097	2.224	1.374	0.850	27.237	0.872	38.473	33.544	35.160	30.656	144.617	0.701	198.575	-0.002	-0.002	144.916	19.194	145.916	1.639	5.021	82.098	42.070	-0.189	1.941	389.841	0.000	0.000	0.000	16.772	167.722	167.722
288	11.700	38.385	-11.700	-38.385	211.825	1.687	23.160	0.796	9	6	9	6	6	124.097	2.234	1.379	0.855	27.401	0.870	40.586	35.321	37.382	32.533	152.080	0.805	209.592	-0.001	-0.001	152.176	20.224	153.176	1.662	5.426	83.578	42.317	-0.206	1.941	411.244	0.000	0.000	0.000	17.661	176.607	176.607
289	11.750	38.549	-11.750	-38.549	245.797	1.960	31.560	0.797	9	6	10	7	7	124.097	2.244	1.384	0.860	27.565	0.869	47.095	40.911	42.703	37.299	176.019	0.920	243.554	0.001	0.001	175.986	23.454	176.986	1.616	5.824	84.788	42.589	-0.220	1.908	476.086	0.000	0.000	0.000	20.456	204.556	204.556
290	11.800	38.713	-11.800	-38.713	248.190	2.285	38.380	0.921	9	6	9	7	6	124.097	2.254	1.389	0.865	27.730	0.867	47.553	41.234	43.729	37.918	177.152	0.929	245.936	0.001	0.001	176.912	23.662	177.912	1.657	5.342	88.014	43.057	-0.234	0.000	0.000	0.000	0.000	0.000	20.617	206.171	206.171
291	11.850	38.877	-11.850	-38.877	241.709	2.415	23.940	0.999	9	6	9	6	6	124.097	2.264	1.394	0.870	27.894	0.866	46.312	40.085	43.088	37.295	171.850	1.009	239.446	-0.001	-0.001	171.939	23.084	172.939	1.692	5.962	87.204	42.921	-0.239	0.000	0.000	0.000	0.000	0.000	20.042	200.423	200.423
292	11.900	39.042	-11.900	-39.042	244.481	2.296	33.810	0.939	9	6	9	7	6	124.097	2.275	1.399	0.876	28.058	0.864	46.843	40.471	43.251	37.368	173.204	0.948	242.207	0.001	0.001	173.075	23.320	174.075	1.669	5.555	87.479	42.967	-0.234	0.000	0.000	0.000	0.000	0.000	20.235	202.354	202.354
293	11.950	39.206	-11.950	-39.206	275.436	2.285	37.730	0.830	9	6	10	7	6	124.097	2.285	1.404	0.881	28.222	0.862	52.773	45.513	47.519	40.982	194.628	0.837	273.152	0.001	0.001	194.416	26.274	195.416	1.595	4.279	90.844	43.528	-0.233	0.000	0.000	0.000	0.000	0.000	22.756	227.564	227.564
294	12.000	39.370	-12.000	-39.370	305.575	2.566	42.440	0.829	9	6	10	7	7	124.097	2.295	1.409	0.886	28.386	0.861	59.315	51.062	54.794	46.949	214.863	0.835	297.281	0.001	0.001	214.648	29.530	215.648	1.642	3.848	91.243	43.988	-0.243	0.000	0.000	0.000	0.000	0.000	25.531	255.310	255.310
295	12.050	39.534	-12.050	-39.534	299.578	3.054	20.570	1.019	9	6	10	7	6	124.097	2.305	1.414	0.891	28.550	0.859	57.399	49.325	52.415	45.042	210.300	1.027	297.274	-0.001	-0.001	210.476	28.638	211.476	1.637	4.980	93.150	43.912	-0.261	0.000	0.000	0.000	0.000	0.000	24.662	246.624	246.624
296	12.100	39.698	-12.100	-39.698	287.099	3.101	35.140	1.080	9	6	10	7	6	124.097	2.315	1.419	0.896	28.714	0.858	55.008	47.186	50.775	43.554	200.747	1.089	284.785	0.001	0.001	200.605	27.399	201.605	1.669	5.538	91.879	43.701	-0.262	0.000	0.000	0.000	0.000	0.000	23.593	235.929	235.929
297	12.150	39.862	-12.150	-39.862	306.289	3.287	35.020	1.073	9	6	10	7	6	124.097	2.325	1.424	0.901	28.879	0.856	58.685	50.250	53.799	46.066	213.505	1.081	303.964	0.001	0.001	213.370	29.238	214.370	1.648	5.181	93.682	44.001	-0.267	0.000	0.000	0.000	0.000	0.000	25.125	251.250	251.250
298	12.200	40.026	-12.200	-40.026	352.266	3.385	45.880	0.961	9	6	10	7	6	124.097	2.336	1.429	0.906	29.043	0.855	67.494	57.691	60.328	51.566	244.923	0.967	349.932	0.001	0.002	244.555	33.610	245.555	1.573	3.923	0.000	44.661	-0.269	0.000	0.000	0.000	0.000	0.000	28.845	288.454	288.454
299	12.250	40.190	-12.250	-40.190	354.978	3.743	46.190	1.054	9	6	10	7	6	124.097	2.346	1.434	0.911	29.207	0.853	68.014	58.032	61.391	52.381	245.943	1.061	352.633	0.001	0.002	245.573	33.869	246.573	1.602	4.398	0.000	44.689	-0.279	0.000	0.000	0.000	0.000	0.000	29.016	290.162	290.162
300	12.300	40.354	-12.300	-40.354	374.567	4.013	44.410	1.071	9	6	10	7	8	124.097	2.356	1.439	0.917	29.371	0.852	71.767	61.127	64.590	55.014	258.686	1.078	372.212	0.001	0.001	258.360	35.751	259.360	1.593	4.255	0.000	44.937	-0.285	0.000	0.000	0.000	0.000	0.000	30.564	305.636	305.636
301	12.350	40.518	-12.350	-40.518	386.125	4.394	47.230	1.138	9	6	10	7	8	124.097	2.366	1.445	0.922	29.535	0.850	73.982	62.903	66.873	56.859	265.777	1.145	383.760	0.001	0.001	265.394	36.850	266.394	1.606	4.469	0.000	45.074	-0.294	0.000	0.000	0.000	0.000	0.000	31.451	314.514	314.514
302	12.400	40.682	-12.400	-40.682	422.797	4.984	65.210	1.179	9	6	10	7	8	124.097	2.376	1.450	0.927	29.699	0.849	81.008	68.757	72.959	61.925	290.152	1.185	420.422	0.003	0.003	289.387	40.309	290.387	1.596	4.290	0.000	45.499	-0.307	0.000	0.000	0.000	0.000	0.000	34.378	343.783	343.783
303	12.450	40.846	-12.450	-40.846	411.929	5.239	43.170	1.272	9	6	10	7	8	124.097	2.387	1.455	0.932	29.863	0.847	78.926	66.873	71.895	60.916	281.662	1.219	409.544	0.001	0.001	281.375	39.334	282.375	1.630	4.855	0.000	45.366	-0.313	0.000	0.000	0.000	0.000	0.000	33.436	334.364	334.364
304	12.500	41.010	-12.500	-41.010	388.729	5.271	51.150	1.356	9	6	10	7	8	124.097	2.397	1.460	0.937	30.027	0.846	74.481	62.997	68.721	58.126	264.778	1.364	386.334	0.002	0.002	264.326	37.087	265.326	1.667	5.518	0.000	45.081	-0.315	0.000	0.000	0.000	0.000	0.000	31.498	314.985	314.985
305	12.550	41.174	-12.550	-41.174	392.724	5.309	55.180	1.352	9	6	10	7	8	124.097	2.407	1.465	0.942	30.192	0.844	75.246	63.534	69.351	58.557	266.585	1.360	390.319	0.002	0.002	266.052	37.458	267.052	1.664	5.460	0.000	45.122	-0.315	0.000	0.000	0.000	0.000	0.000	31.767	317.672	317.672
306	12.600	41.338	-12.600	-41.338	391.164	5.451	48.740	1.394	9	6	10	7	8	124.097	2.417	1.470	0.947	30.356	0.843	74.947	63.173	69.364	58.467	264.598	1.402

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
114	3.000	9.842	-3.000	-9.842	17.874	0.308	-2.530	1.723	6	5	6	5	5	114.551	0.590	0.590	0.000	0.000	1.331	6.849	9.115	4.574	6.087	29.327	1.782	17.285	-0.004	-0.005	29.461	1.720	30.461	2.574	34.100	0.000	32.535	-0.121	0.000	0.000	0.000	0.000	0.000	2.279	22.788	22.788
115	3.050	10.006	-3.050	-10.006	19.956	0.345	-2.270	1.729	6	5	7	6	5	114.551	0.599	0.599	0.000	0.000	1.320	7.647	10.097	5.017	6.624	32.328	1.782	19.357	-0.004	-0.004	32.446	1.919	33.446	2.538	32.397	0.000	33.023	-0.131	0.000	0.000	0.000	0.000	0.000	2.524	25.242	25.242
116	3.100	10.170	-3.100	-10.170	13.747	0.485	-2.060	3.528	4	4	6	5	3	114.551	0.608	0.608	0.000	0.000	1.310	8.780	11.502	3.926	6.440	21.604	3.691	13.139	-0.005	-0.005	21.710	1.323	22.710	2.785	45.113	0.000	31.206	-0.176	0.000	0.000	0.000	0.000	0.000	1.725	17.254	21.604
117	3.150	10.335	-3.150	-10.335	9.764	0.357	3.790	3.656	3	3	5	5	3	111.369	0.618	0.618	0.000	0.000	1.300	9.354	12.162	3.026	4.792	14.813	3.903	9.146	0.012	0.013	14.622	0.924	15.622	2.927	53.710	0.000	0.000	0.000	0.000	0.000	0.000	0.610	0.015	4.469	1.216	12.162	14.813
118	3.200	10.499	-3.200	-10.499	6.555	0.287	13.600	4.378	3	3	4	4	3	111.369	0.627	0.627	0.000	0.000	1.291	6.280	8.105	2.325	3.503	9.462	4.841	5.928	0.065	0.072	8.784	0.587	9.784	3.138	68.295	0.000	0.000	0.000	0.000	0.000	0.000	0.395	0.053	2.351	0.811	8.105	9.462
119	3.250	10.663	-3.250	-10.663	5.194	0.162	21.390	3.119	3	3	3	3	3	111.369	0.636	0.636	0.000	0.000	1.281	4.975	6.376	1.867	2.690	7.170	3.554	4.558	0.129	0.146	6.120	0.434	7.120	3.158	69.751	0.000	0.000	0.000	0.000	0.000	0.000	0.304	0.083	1.647	0.638	6.376	7.170
120	3.300	10.827	-3.300	-10.827	4.773	0.090	29.280	1.886	4	3	3	3	3	114.551	0.645	0.645	0.000	0.000	1.272	3.048	3.878	1.635	2.288	6.400	2.180	4.128	0.191	0.221	4.983	0.370	5.983	3.086	64.485	0.000	0.000	0.000	0.000	0.000	0.000	0.275	0.114	1.440	0.582	5.817	6.400
121	3.350	10.991	-3.350	-10.991	4.897	0.072	36.380	1.470	1	3	3	3	3	111.369	0.654	0.654	0.000	0.000	1.263	2.346	2.963	1.615	2.232	6.485	1.697	4.243	0.232	0.268	4.750	0.360	5.750	3.028	60.369	0.000	0.000	0.000	0.000	0.000	0.000	0.283	0.142	1.462	0.593	5.926	6.485
122	3.400	11.155	-3.400	-11.155	5.128	0.075	41.340	1.463	1	3	3	3	3	111.369	0.664	0.664	0.000	0.000	1.254	2.456	3.081	1.674	2.293	6.730	1.680	4.465	0.252	0.289	4.785	0.368	5.785	3.011	59.258	0.000	0.000	0.000	0.000	0.000	0.000	0.298	0.161	1.527	0.616	6.163	6.730
123	3.450	11.319	-3.450	-11.319	5.403	0.088	43.700	1.629	1	3	3	3	3	111.369	0.673	0.673	0.000	0.000	1.246	2.588	3.224	1.769	2.404	7.034	1.860	4.730	0.252	0.288	5.006	0.387	6.006	3.016	59.588	0.000	0.000	0.000	0.000	0.000	0.000	0.315	0.171	1.609	0.645	6.448	7.034
124	3.500	11.483	-3.500	-11.483	5.368	0.097	47.760	1.807	4	3	3	3	3	114.551	0.682	0.682	0.000	0.000	1.237	2.428	4.242	1.793	2.397	6.874	2.070	4.686	0.278	0.318	4.687	0.371	5.687	3.048	61.781	0.000	0.000	0.000	0.000	0.000	0.000	0.313	0.186	1.565	0.636	6.363	6.874
125	3.550	11.647	-3.550	-11.647	5.234	0.099	51.930	1.891	4	3	3	3	3	114.551	0.691	0.691	0.000	0.000	1.229	3.343	4.108	1.781	2.334	6.573	2.179	4.543	0.310	0.357	4.228	0.346	5.228	3.076	63.761	0.000	0.000	0.000	0.000	0.000	0.000	0.303	0.203	1.485	0.616	6.162	6.573
126	3.600	11.811	-3.600	-11.811	5.152	0.095	56.370	1.844	4	3	3	3	3	114.551	0.701	0.701	0.000	0.000	1.221	3.290	4.016	1.762	2.269	6.354	2.134	4.451	0.342	0.395	3.842	0.325	4.842	3.084	64.343	0.000	0.000	0.000	0.000	0.000	0.000	0.297	0.220	1.428	0.602	6.025	6.354
127	3.650	11.975	-3.650	-11.975	5.501	0.116	51.380	2.109	4	3	3	3	3	114.551	0.710	0.710	0.000	0.000	1.213	3.513	4.260	1.888	2.418	6.748	2.421	4.791	0.292	0.335	4.489	0.373	5.489	3.090	64.740	0.000	0.000	0.000	0.000	0.000	0.000	0.320	0.201	1.531	0.639	6.390	6.748
128	3.700	12.139	-3.700	-12.139	6.215	0.136	34.380	2.188	4	3	4	3	3	114.551	0.720	0.720	0.000	0.000	1.205	3.969	4.781	2.077	2.665	7.639	2.475	5.495	0.173	0.195	6.148	0.493	7.148	3.049	61.840	0.000	0.000	0.000	0.000	0.000	0.000	0.367	0.134	1.780	0.717	7.172	7.639
129	3.750	12.303	-3.750	-12.303	5.465	0.144	37.650	2.635	3	3	3	3	3	111.369	0.729	0.729	0.000	0.000	1.197	5.236	6.267	1.962	2.436	6.501	3.040	4.736	0.215	0.248	4.888	0.411	5.888	3.156	69.615	0.000	0.000	0.000	0.000	0.000	0.000	0.316	0.147	1.466	0.627	6.267	6.501
130	3.800	12.467	-3.800	-12.467	5.018	0.122	52.570	2.431	3	3	3	3	3	111.369	0.738	0.738	0.000	0.000	1.190	4.807	5.718	1.836	2.216	5.802	2.850	4.280	0.327	0.383	3.578	0.324	4.578	3.183	71.660	0.000	0.000	0.000	0.000	0.000	0.000	0.285	0.205	1.291	0.572	5.718	5.802
131	3.850	12.631	-3.850	-12.631	4.844	0.100	55.140	2.064	4	3	3	3	3	114.551	0.747	0.747	0.000	0.000	1.182	3.094	3.657	1.755	2.074	5.485	2.441	4.097	0.355	0.420	3.181	0.299	4.181	3.169	70.595	0.000	0.000	0.000	0.000	0.000	0.000	0.273	0.215	1.215	0.549	5.486	5.485
132	3.900	12.795	-3.900	-12.795	4.641	0.095	62.580	2.047	4	3	3	3	3	114.551	0.757	0.757	0.000	0.000	1.175	2.964	3.482	1.711	1.977	5.135	2.446	3.884	0.421	0.503	2.553	0.257	3.553	3.194	72.528	0.000	0.000	0.000	0.000	0.000	0.000	0.259	0.244	1.136	0.522	5.223	5.135
133	3.950	12.959	-3.950	-12.959	4.711	0.090	65.800	1.911	4	3	3	3	3	114.551	0.766	0.766	0.000	0.000	1.168	3.009	3.513	1.717	1.960	5.152	2.281	3.945	0.436	0.521	2.470	0.255	3.470	3.178	71.271	0.000	0.000	0.000	0.000	0.000	0.000	0.263	0.257	1.139	0.527	5.269	5.152
134	4.000	13.123	-4.000	-13.123	5.138	0.132	70.090	2.569	3	3	3	3	2	111.369	0.775	0.775	0.000	0.000	1.161	4.922	5.712	1.913	2.188	5.629	3.026	4.362	0.426	0.501	2.806	0.283	3.806	3.208	73.594	0.000	0.000	0.000	0.000	0.000	0.000	0.291	0.274	1.249	0.571	5.712	5.629
135	4.050	13.287	-4.050	-13.287	5.644	0.156	51.880	2.764	3	3	3	3	3	111.369	0.785	0.785	0.000	0.000	1.154	5.407	6.238	2.070	2.372	6.197	3.210	4.860	0.287	0.333	4.132	0.386	5.132	3.186	71.923	0.000	0.000	0.000	0.000	0.000	0.000	0.324	0.203	1.388	0.624	6.238	6.197
136	4.100	13.451	-4.100	-13.451	5.768	0.176	54.160	3.051	3	3	3	3	3	111.369	0.794	0.794	0.000	0.000	1.147	5.526	6.339	2.144	2.433	6.271	3.538	4.975	0.293	0.340	4.140	0.391	5.140	3.205	73.382	0.000	0.000	0.000	0.000	0.000	0.000	0.332	0.211	1.407	0.634	6.339	6.271
137	4.150	13.615	-4.150	-13.615	5.465	0.160	58.470	2.928	3	3	3	3	3	111.369	0.803	0.803	0.000	0.000	1.141	5.235	5.971	2.061	2.288	5.810	3.432	4.663	0.334	0.391	3.536	0.349	4.536	3.225	74.991	0.000	0.000	0.000	0.000	0.000	0.000	0.311	0.228	1.292	0.597	5.971	5.810
138	4.200	13.779	-4.200	-13.779	5.294	0.132	66.250	2.494	3	3	3	3	3	111.369	0.812	0.812	0.000	0.000	1.134	5.071	5.751	1.972	2.148	5.523	2.945	4.482	0.391	0.461	2.975	0.309	3.975	3.208	73.659	0.000	0.000	0.000	0.000	0.000	0.000	0.299	0.259	1.224	0.575	5.751	5.523
139	4.250	13.943	-4.250	-13.943	5.448	0.120	84.580	2.203	4	3	3	3	2	114.551	0.821	0.821	0.000	0.000	1.128	3.479	3.924	1.978	2.136	5.637	2.593	4.627	0.485	0.571	2.421	0.269	3.421	3.172	70.844	0.000	0.000	0.000	0.000	0.000	0.000	0.309	0.330	1.251	0.589	5.886	5.637
140	4.300	14.107	-4.300	-14.107	5.785	0.115	88.940	1.988	4	3	3	3	3	114.551	0.831	0.831	0.000	0.000	1.121	3.695	4.143	2.035	2.191	5.968	2.321	4.955	0.480	0.560	2.624	0.288	3.624	3.126	67.392	0.000	0.000	0.000	0.000	0.000	0.000	0.330	0.347	1.331	0.621	6.214	5.968
141	4.350	14.271	-4.350	-14.271	6.091	0.138	94.710	2.266	4	3	3	3	3	114.551	0.840	0.840	0.000	0.000	1.115	3.890	4.338	2.158	2.313	6.255	2.628	5.252	0.485	0.563	2.734	0.300	3.734	3.136	68.158	0.000	0.000	0.000	0.000	0.000	0.000	0.350	0.370	1.403	0.651	6.506	6.255
142	4.400	14.436	-4.400	-14.436	7.225	0.234	104.990	3.239	3	3	3	3	2	111.369	0.849	0.849	0.000	0.000	1.109	6.922	7.676	2.581	2.801	7.511	3.670	6.377	0.454	0.514	3.651	0.378	4.651	3.149	69.082	0.000	0.000	0.000	0.000	0.000	0.000	0.425	0.410	1.743	0.768	7.676	7.511
143	4.450	14.600	-4.450	-14.600	23.431	0.371	102.630	1.583	6	5	5	5	5	114.551	0.859	0.859	0.000	0.000	1.103	8.979	9.902	5.853	6.455	26.303	1.644	22.573	0.137	0.142	22.570	1.938	23.570	2.524	31.786	0.000	32.930	-0.086	0.000	0.000	0.000	0.000	0.000	2.476	24.756	24.756
144	4.500	14.764	-4.500	-14.764	17.330	0.430	-3.130	2.481	5	4	6	5	4	114.551	0.868	0.868	0.000	0.000	1.097	8.301	9.106	4.819	5.508	18.976	2.612	16.463	-0.006	-0.006	19.089	1.670	20.089	2.736	42.375	0.000	31.464	-0.111	0.000	0.000	0.000	0.000	0.000	1.821	18.211	18.976
145	4.550	14.928	-4.550	-14.928	12.358	0.367	-5.090	2.970	4	3	6	5	3	114.551	0.877	0.877	0.000	0.000	1.091	7.893	8.611	3.808	4.211	13.092	3.197	11.481	-0.013	-0.014	13.273	1.199	14.273	2.917	53.089	0.000	0.000	0.000	0.000	0.000	0.000	0.766	0.000	3.720	1.292	12.917	13.092
146	4.600	15.092	-4.600	-15.092	9.108	0.274	2.910	3.008	4	3	5	4	3	114.551	0.887	0.887	0.000	0.000	1.085	5.817	6.313	3.046	3.238	9.276	3.333	8.222	0.010	0.011	9.174	0.864	10.174	3.050	61.893	0.000	0.000	0.000	0.000	0.000	0.000	0.548	0.011	2.289	0.947	9.469	9.276
147	4.650	15.256	-4.650	-15.256	8.699	0.211	22.260	2.426	4	3	5	4	3	114.551	0.896	0.896	0.000	0.000	1.080	5.556	5.997	2.857	2.987	8.711	2.704	7.803	0.080	0.089	7.936	0.767	8.936	3.022	59.946	0.000	0.000	0.000	0.000	0.000	0.000	0.520	0.087	2.106	0.900	8.996	8.711
148	4.700	15.420	-4.700	-15.420	8.592	0.271	38.800	3.154	4	3	4	4	3	114.551	0.906	0.906	0.000	0.000	1.074	5.488	5.893	2.960	3.054	8.493	3.525	7.687	0.141	0.158	7.155	0.707	8.155	3.095	65.121	0.000	0.000	0.000	0.000	0.000	0.000	0.513	0.151	2.038	0.884	8.840	8.493
149	4.750	15.584	-4.750	-15.584	9.375	0.304	26.410	3.243	4	3	5	4	3	114.551	0.915	0.915	0.000	0.000	1.068	5.987	6.397	3.176	3.271	9.251	3.593	8.460	0.088	0.097	8.350	0.819	9.350	3.069	63.285	0.000	0.000	0.000	0.000	0.000	0.000	0.564	0.103	2.281	0.960	9.595	9.251
150	4.800	15.748	-4.800	-15.748	11.042	0.326	19.540	2.952	4	3	5	4	3	114.551	0.924	0.924	0.000	0.000	1.063	7.057	7.496	3.539	3.663	10.951	3.222	10.118	0.055	0.060	10.291	0.999	11.291	3.382	57.298	0.000	0.000	0.000	0.000	0.000	0.000	0.675	0.076	2.877	1.124	11.244	10.951
151	4.850	15.912	-4.850	-15.912	13.176	0.396	20.250	3.005	5	3	5	5	4	3	114.551	0.934	0.934	0.000	0.000	1.058	6.312	6.675	4.066	4.225	13.118	3.234	12.243	0.048	0.052	12.440	1.202	13.440	2.920	53.238	0.000	0.000	0.000	0.000	0.000	0.000	0.817	0.079	3.731	1.335	13.349	13.118
152	4.900	16.076	-4.900	-16.076	11.439	0.339	14.290	2.963	4	4	5	5	4	3	114.551	0.943	0.943	0.000	0.000	1.052	7.306	7.688	3.654	3.713	11.134	3.230	10.496	0.039	0.042	10.661	1.053	11.661	2.977	56.949	0.000	0.000	0.000	0.000	0.000	0.000	0.700	0.056	2.945	1.153	11.532	11.134
153	4.950	16.240	-4.950	-16.240	10.093	0.163	32.510	1.615	5	4	5	4	4	114.551	0.953	0.953	0.000	0.000	1.047	4.835	5.062	3.060	3.039	9.601	1.783	9.141	0.101	0.111	8.535	0.870	9.535	2.890	51.386	0.000	28.659	0.009	0.000	0.000	0.000	0.000	0.000	1.012	10.124	9.601
154	5.000	16.404	-5.000	-16.404	25.525	0.230	44.010	0.901	7	5	6	5	5	117.733	0.962	0.962	0.000	0.000	1.042	8.151	8.492	5.969	6.219	25.543	0.936	24.563	0.054	0.056	24.114	2.314	25.114	2.383	25.726	0.000	33.068	-0.048	0.000	0.000	0.000	0.000	0.000	2.548	25.476	25.476
155	5.050	16.568	-5.050	-16.568	55.797	0.352	2.750	0.631	8	6	8	6	6	120.915	0.972	0.972	0.000	0.000	1.037	13.363	13.853	11.165	11.574	56.438	0.642	54.826	0.002	0.002	56.350	5.337	57.350	2.009	13.196	50.352	36.779	-0.096	2.832	158.092	0.000	0.000	0.000	5.541	55.410	55.410
156	5.100	16.732	-5.100	-16.732	86.850	0.470	3.210	0.541	8	6	9	6	6	120.915	0.982	0.982	0.000	0.000	1.031	20.801	21.453	16.143	16.649	87.501	0.547	85.869	0.001	0.001	87.399	8.311	88.399	1.811	8.353	62.889	38.869	-0.123	2.312	200.896	0.000	0.000	0.000	8.581	85.811	85.811
157	5.150	16.896	-5.150	-16.896	113.667	0.363	7.540	0.319	9	6	9	6	6	124.097	0.992	0.992	0.000	0.000	1.026	21.779	22.347	19.626	20.139	113.654	0.322	112.676	0.002	0.002	113.417	10.867	114.417	1.597	4.319	70.456	40.130	-0.102	2.114	240.349	0.000	0.000	0.000	11.174	111.737	111.737
158	5.200	17.060	-5.200	-17.060	129.812	0.529	5.090	0.408	9	6	9	6	6	124.097	1.002	1.002	0.000	0.000	1.021	24.872	25.391	22.437	22.906	128.609	0.411	128.810	0.001	0.001	128.450	12.421	129.450	1.601	4.370	74.117	40.740	-0.133	2.036	264.380	0.000	0.000	0.000	12.696	126.957	126.957
159	5.250	17.224	-5.250	-17.224	132.826	0.517	2.560	0.540	9	6	9	6	6	124.097	1.012	1.012	0.000	0.000	1.016	25.449	25.850	23.431	23.799	130.284	0.146	131.814	0.001	0.001	130.205	12.717	131.205	1.612	4.421	74.630	40.826	-0.158	2.027	269.274	0.000	0.000	0.000	12.925	129.250	129.250
160	5.300	17.388	-5.300	-17.388	136.698	0.810	4.510	0.593	9	6	9	6	6	124.097	1.022	1.022	0.000	0.000	1.011	26.191	26.471	24.240	24.498	132.766	0.597	135.676	0.001	0.001	132.628	13.082	133.628	1.676	5.679	75.310	40.939	-0.167	2.014	275.414	0.000	0.000	0.000	13.235	132.354	132.354
161	5.350	17.552	-5.350	-17.552	134.366	0.884	2.580	0.658	9	6	9	6	6	124.097	1.033	1.033	0.000	0.000	1.006	25.745	25.891	24.115	24.252	129.187	0.663	133.334	0.001	0.001	129.109	12.865	130.109	1.711	6.331	74.675	40.833	-0.174	2.029	272.726	0.000	0.000	0.000	12.945	129.453	129.453
162	5.400	17.716	-5.400	-17.716	126.676	0.846	2.620	0.668	9	6	9	6	6	124.097	1.043	1.043	0.000	0.000	1.001	24.271	24.289	22.943	22.960	120.538	0.673	125.634	0.001	0.001	120.460	12.128	121.460	1.737	6.838	72.845	40.528	-0.169	2.070	262.291	0.000	0.000	0.000	12.432	124.321	124.321
163	5.450	17.880	-5.450	-17.880	121.150	0.804	3.130	0.664	9	6	9	6	6	124.097	1.053	1.053	0.000	0.000	0.996	23.212	23.117	22.063	21.972	114.112	0.669	120.097	0.001	0.001	114.019	11.597	115.019	1.753	7.150	71.427	40.292	-0.164	2.103	254.831	0.000	0.000	0.000	11.559	115.585	115.585
164	5.500	18.044	-5.500	-18.044	118.691	0.794	3.390	0.669	9	6	9	6	6	124.097	1.063	1.062	0.001	0.046	0.992	22.741	22.554	21.697	21.519	110.845	0.675	117.629	0.001	0.001	110.747	11.360	111.747	1.764	7.367	70.721	40.174	-0.162	2.120	251.725	0.000	0.000	0.000	11.277	112.772	112.772
165	5.550	18.208	-5.550	-18.208	112.621	0.827	3.310	0.734	9	6	9	6	6	124.097	1.073	1.067	0.007	0.210	0.989	21.578	21.350	20.908	20.687	104.617	0.741	111.548	0.001	0.001	104.526	10.779	105.526	1.807	8.279	69.148	39.912	-0.165	2.157	243.065	0.000	0.000	0.000	10.675	106.751	106.751
166	5.600	18.372	-5.600	-18.372	106.213	0.826	3.700	0.778	8	6	9	6	6	120.915	1.083	1.072	0.012	0.374	0.987	25.438	25.111	19.978	19.721	98.144	0.786	105.130	0.001	0.001	98.047	10.164	99.047	1.844	9.079	67.403	39.621	-0.164	2.201	233.900	0.000	0.000	0.000	10.045	100.445	100.445
167	5.650	18.537	-5.650	-18.537	97.203	0.782	3.640	0.805	8	6	9	6	6	120.915	1.093	1.076	0.017	0.538	0.980	23.280	22.930	18.557	18.277	89.323	0.814	96.110	0.001	0.001	89.233	9.301	90.233	1.884	10.017	64.798	39.187	-0.158	2.273	221.025	0.000	0.000	0.000	9.172	91.719	91.719
168	5.700	18.701	-5.700	-18.701	92.330	0.731	3.270	0.792	8	6	9	6	6	120.915	1.103	1.081	0.022	0.703	0.983	22.113	21.732	17.723	17.417	84.410	0.801	91.228	0.001	0.001	84.335	8.835	85.335	1.899	10.369	63.260	38.931	-0.152	2.320	214.302	0.000	0.000	0.000	8.693	86.928	86.928
169	5.750	18.865	-5.750	-18.865	94.662	0.713	3.450	0.753	8	6	9	6	6	120.915	1.113	1.086	0.027	0.867	0.981	22.671	22.231	18.032	17.682	86.175	0.762	93.549	0.001	0.001	86.101	9.058	87.101	1.878	9.875	63.911	39.039	-0.149	2.301	217.905	0.000	0.000	0.000	8.893	88.926	88.926
170	5.800	19.029	-5.800	-19.029	100.883	0.735	3.700	0.729	8	6	9	6	6	120.915	1.123	1.091	0.032	1.031	0.978	24.162	23.640	19.005	18.596	91.493	0.737	99.761	0.001	0.001	91.416	9.654	92.416	1.848	9.178	65.673	39.333	-0.152	2.251	227.172	0.000	0.000	0.000	9.456	94.562	94.562
171	5.850	19.193	-5.850	-19.193	108.986	0.830	4.090	0.762	9	6	9	6	6	124.097	1.133	1.096	0.037	1.195	0.976	20.882	20.385	20.421	19.936	98.469	0.770	107.853	0.001	0.001	98.387	10.429	99.387	1.833	8.844	67.822	39.691	-0.162	2.195	239.335	0.000	0.000	0.000	10.193	101.926	101.926
172	5.900	19.357	-5.900	-19.357	115.528	0.917	4.470	0.794	9	6	9	6	6	124.097	1.143	1.101	0.042	1.359	0.974	22.135	21.559	21.581	21.020	103.953	0.802	114.385	0.001	0.001	103.865	11.054	104.865	1.825	8.657	69.427	39.959	-0.171	2.157	249.286	0.000	0.000	0.000	10.780	107.796	107.796
173	5.950	19.521	-5.950	-19.521	119.169	1.030	4.680	0.864	9	6	9	6	6	124.097	1.153	1.106	0.048	1.523	0.972	22.833	22.188	22.369	21.737	106.763	0.873	118.016	0.001	0.001	106.673	11.402	107.673	1.838	8.951	70.251	40.096	-0.181	2.139	254.953	0.000	0.000	0.000

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
227	8.650	28.379	-8.650	-28.379	63.855	2.664	20.100	4.172	5	4	8	6	3	114.551	1.690	1.366	0.324	10.387	0.874	30.587	26.742	16.089	14.067	45.523	4.285	62.166	0.005	0.005	45.301	6.057	46.301	2.542	32.613	49.338	36.610	-0.327	2.973	189.924	0.000	0.000	0.000	5.348	53.484	53.484
228	8.700	28.543	-8.700	-28.543	79.789	2.718	17.480	3.406	6	4	8	6	4	114.551	1.700	1.370	0.329	10.551	0.873	30.575	26.690	18.895	16.494	57.006	3.481	78.090	0.003	0.003	56.848	7.592	57.848	2.411	26.852	55.678	37.667	-0.298	2.665	212.759	0.000	0.000	0.000	6.672	66.725	66.725
229	8.750	28.707	-8.750	-28.707	70.705	2.543	5.610	3.597	5	4	8	6	4	114.551	1.709	1.375	0.334	10.715	0.872	33.868	29.518	17.172	14.967	50.211	3.686	68.997	-0.002	-0.002	50.327	6.757	51.327	2.465	29.157	52.169	37.082	-0.296	2.831	200.230	0.000	0.000	0.000	5.904	59.036	59.036
230	8.800	28.871	-8.800	-28.871	76.445	1.987	3.950	2.599	6	5	8	6	4	114.551	1.718	1.379	0.339	10.879	0.870	29.294	25.492	17.543	15.266	54.212	2.659	74.727	-0.003	-0.003	54.369	7.312	55.369	2.341	24.065	54.362	37.448	-0.238	2.727	208.539	0.000	0.000	0.000	6.373	63.729	63.729
231	8.850	29.035	-8.850	-29.035	81.786	1.206	-3.780	1.475	7	5	9	6	5	117.733	1.728	1.383	0.345	11.043	0.869	26.117	22.691	17.326	15.053	57.896	1.506	80.059	-0.006	-0.006	58.230	7.846	59.230	2.153	17.446	56.252	37.763	-0.174	2.643	216.251	0.000	0.000	0.000	6.807	68.074	68.074
232	8.900	29.199	-8.900	-29.199	76.598	1.321	-5.130	1.725	7	5	8	6	5	117.733	1.738	1.388	0.350	11.207	0.867	24.460	21.217	16.684	14.472	53.960	1.765	74.861	-0.007	-0.007	54.327	7.353	55.327	2.220	19.663	54.327	37.442	-0.184	2.730	209.230	0.000	0.000	0.000	6.365	63.651	63.651
233	8.950	29.363	-8.950	-29.363	75.998	1.210	-5.190	1.592	7	5	8	6	5	117.733	1.747	1.392	0.355	11.372	0.866	24.269	21.016	16.418	14.218	53.345	1.630	74.251	-0.007	-0.007	53.717	7.296	54.717	2.200	19.000	54.054	37.396	-0.174	2.744	208.627	0.000	0.000	0.000	6.305	63.049	63.049
234	9.000	29.527	-9.000	-29.527	81.788	1.528	-5.130	1.868	7	5	9	6	5	117.733	1.757	1.397	0.360	11.536	0.865	26.118	22.581	17.835	15.420	57.312	1.909	80.032	-0.006	-0.006	57.684	7.851	58.684	2.222	19.756	56.112	37.739	-0.199	2.652	216.987	0.000	0.000	0.000	6.774	67.743	67.743
235	9.050	29.691	-9.050	-29.691	102.439	1.695	-1.730	1.655	7	5	9	6	5	117.733	1.767	1.402	0.365	11.700	0.863	32.712	28.237	21.365	18.442	71.860	1.684	100.673	-0.004	-0.004	72.159	9.819	73.159	2.114	16.240	62.519	38.807	-0.208	2.407	246.670	0.000	0.000	0.000	8.471	84.710	84.710
236	9.100	29.855	-9.100	-29.855	115.806	1.383	-5.410	1.194	8	6	9	6	5	120.915	1.776	1.406	0.370	11.864	0.862	27.736	23.901	22.912	19.744	81.124	1.213	114.031	-0.005	-0.005	81.508	11.110	82.508	1.980	12.402	65.987	39.385	-0.186	2.302	266.717	0.000	0.000	0.000	9.560	95.605	95.605
237	9.150	30.019	-9.150	-30.019	120.015	1.155	-7.170	0.962	8	6	9	6	5	120.915	1.786	1.411	0.375	12.028	0.860	28.744	24.728	23.109	19.881	83.826	0.977	118.230	-0.005	-0.005	84.250	11.519	85.250	1.908	10.575	66.961	39.548	-0.169	2.276	273.304	0.000	0.000	0.000	9.891	98.911	98.911
238	9.200	30.183	-9.200	-30.183	129.441	1.482	-7.780	1.145	8	6	9	6	5	120.915	1.796	1.416	0.380	12.192	0.859	31.001	26.625	25.152	21.601	90.195	1.161	127.646	-0.005	-0.005	90.635	12.424	91.635	1.932	11.175	69.080	39.901	-0.192	2.222	287.785	0.000	0.000	0.000	10.650	106.499	106.499
239	9.250	30.347	-9.250	-30.347	134.836	1.834	-7.100	1.360	8	6	9	6	5	120.915	1.806	1.421	0.386	12.356	0.857	32.293	27.687	26.579	22.788	93.682	1.379	133.030	-0.005	-0.005	94.110	12.938	95.110	1.970	12.149	70.202	40.088	-0.213	2.196	296.174	0.000	0.000	0.000	11.075	110.749	110.749
240	9.300	30.511	-9.300	-30.511	155.637	1.697	-6.890	1.090	9	6	9	6	5	124.097	1.816	1.426	0.391	12.520	0.856	29.820	25.523	29.436	25.194	107.949	1.103	153.821	-0.004	-0.004	108.374	14.931	109.374	1.859	9.423	74.265	40.765	-0.204	2.101	327.065	0.000	0.000	0.000	12.761	127.614	127.614
241	9.350	30.675	-9.350	-30.675	156.683	1.403	-7.500	0.895	9	6	9	6	6	124.097	1.826	1.431	0.396	12.685	0.854	30.020	25.649	29.013	24.788	108.292	0.906	154.858	-0.004	-0.004	108.732	15.033	109.732	1.800	8.125	74.406	40.788	-0.186	2.098	328.875	0.000	0.000	0.000	12.824	128.244	128.244
242	9.400	30.840	-9.400	-30.840	158.431	1.492	-7.910	0.942	9	6	9	6	6	124.097	1.837	1.436	0.401	12.849	0.853	30.355	25.889	29.456	25.122	109.121	0.953	156.595	-0.004	-0.004	109.572	15.201	110.572	1.811	8.369	74.673	40.833	-0.191	2.093	331.682	0.000	0.000	0.000	12.945	129.446	129.446
243	9.450	31.004	-9.450	-31.004	160.863	1.849	-7.570	1.149	9	6	9	6	5	124.097	1.847	1.441	0.406	13.013	0.851	30.821	26.240	30.500	25.967	110.419	1.163	159.017	-0.004	-0.004	110.865	15.433	111.865	1.866	9.581	75.059	40.897	-0.212	2.084	335.451	0.000	0.000	0.000	13.120	131.202	131.202
244	9.500	31.168	-9.500	-31.168	160.464	1.940	-7.410	1.209	8	6	9	6	5	120.915	1.857	1.446	0.411	13.177	0.850	38.431	32.663	30.609	26.016	109.760	1.223	158.608	-0.004	-0.004	110.204	15.395	111.204	1.882	9.967	74.939	40.877	-0.216	2.088	335.193	0.000	0.000	0.000	13.065	130.653	130.653
245	9.550	31.332	-9.550	-31.332	154.912	1.229	-7.750	0.793	9	6	9	6	6	124.097	1.867	1.451	0.416	13.341	0.848	29.681	25.184	28.404	24.100	105.551	0.803	153.045	-0.004	-0.004	106.005	14.864	107.005	1.772	7.544	73.881	40.701	-0.173	2.114	327.556	0.000	0.000	0.000	12.592	125.918	125.918
246	9.600	31.496	-9.600	-31.496	145.237	1.189	-8.510	0.819	9	6	9	6	6	124.097	1.877	1.456	0.421	13.505	0.847	27.827	23.570	26.927	22.807	98.528	0.829	143.361	-0.005	-0.005	99.000	13.939	100.000	1.804	8.199	71.983	40.385	-0.169	2.159	313.717	0.000	0.000	0.000	11.785	117.848	117.848
247	9.650	31.660	-9.650	-31.660	125.183	1.482	-9.120	1.184	8	6	9	6	5	120.915	1.887	1.461	0.427	13.669	0.846	29.981	25.351	24.563	20.770	84.452	1.202	123.297	-0.006	-0.006	84.939	12.020	85.939	1.958	11.833	67.675	39.667	-0.189	2.267	283.852	0.000	0.000	0.000	10.140	101.405	101.405
248	9.700	31.824	-9.700	-31.824	98.917	1.480	-8.500	1.496	8	5	9	6	5	120.915	1.897	1.465	0.432	13.834	0.844	23.691	19.999	20.542	17.341	66.237	1.525	97.021	-0.007	-0.007	66.713	9.502	67.713	2.104	15.916	60.878	38.534	-0.189	2.476	245.047	0.000	0.000	0.000	8.000	79.997	79.997
249	9.750	31.988	-9.750	-31.988	95.575	1.436	-7.170	1.502	8	5	9	6	5	120.915	1.907	1.470	0.437	13.998	0.843	22.890	19.292	19.953	16.816	63.740	1.533	93.669	-0.007	-0.007	64.189	9.178	65.189	2.117	16.316	59.846	38.362	-0.186	2.515	240.490	0.000	0.000	0.000	7.717	77.168	77.168
250	9.800	32.152	-9.800	-32.152	98.805	1.539	-5.680	1.558	8	5	9	6	5	120.915	1.917	1.475	0.442	14.162	0.841	23.664	19.911	20.628	17.357	65.716	1.588	96.888	-0.006	-0.006	66.136	9.482	67.136	2.117	16.318	60.752	38.513	-0.193	2.483	245.409	0.000	0.000	0.000	7.965	79.645	79.645
251	9.850	32.316	-9.850	-32.316	125.209	1.721	-3.400	1.375	8	5	9	6	5	120.915	1.927	1.480	0.447	14.326	0.840	29.988	25.191	25.001	21.002	83.348	1.396	123.283	-0.004	-0.004	83.721	12.005	84.721	2.004	13.044	67.494	39.636	-0.203	2.275	284.957	0.000	0.000	0.000	10.077	100.766	100.766
252	9.900	32.480	-9.900	-32.480	115.650	1.800	-3.170	1.556	8	5	9	6	5	120.915	1.937	1.485	0.452	14.490	0.839	27.698	23.231	23.666	19.849	76.630	1.583	113.714	-0.005	-0.005	77.001	11.089	78.001	2.067	14.817	65.171	39.249	-0.208	2.341	270.796	0.000	0.000	0.000	9.292	92.923	92.923
253	9.950	32.644	-9.950	-32.644	103.203	0.804	-5.850	0.779	8	6	9	6	5	120.915	1.947	1.489	0.457	14.654	0.837	24.717	20.697	19.919	16.679	68.016	0.794	101.258	-0.006	-0.006	68.446	9.904	69.446	1.914	10.729	61.861	38.698	-0.131	2.447	252.598	0.000	0.000	0.000	8.279	82.788	82.788
254	10.000	32.808	-10.000	-32.808	107.310	0.869	-7.950	0.810	8	6	9	6	5	120.915	1.957	1.494	0.462	14.818	0.836	25.701	21.486	20.686	17.293	70.541	0.825	105.355	-0.007	-0.007	71.016	10.304	72.016	1.910	10.647	62.934	38.876	-0.138	2.412	258.898	0.000	0.000	0.000	8.594	85.944	85.944
255	10.050	32.972	-10.050	-32.972	108.016	0.799	-5.390	0.740	9	6	9	6	6	124.097	1.967	1.499	0.468	14.983	0.835	20.696	17.225	20.631	17.219	70.773	0.753	106.051	-0.006	-0.006	71.197	10.364	72.197	1.886	10.049	63.074	38.906	-0.131	2.408	260.212	0.000	0.000	0.000	8.637	86.367	86.367
256	10.100	33.136	-10.100	-33.136	94.850	1.387	-4.850	1.462	8	5	9	6	5	120.915	1.977	1.504	0.473	15.147	0.833	22.717	18.929	19.791	16.491	61.777	1.493	92.874	-0.007	-0.007	62.192	9.101	63.192	2.115	16.275	59.302	38.271	-0.180	2.543	241.288	0.000	0.000	0.000	7.572	75.715	75.715
257	10.150	33.300	-10.150	-33.300	80.427	1.987	1.100	2.471	7	5	9	6	4	117.733	1.986	1.509	0.478	15.311	0.832	25.683	21.368	18.323	15.244	52.015	2.533	78.441	-0.006	-0.006	52.309	7.702	53.309	2.324	23.431	54.529	37.476	-0.226	2.747	221.013	0.000	0.000	0.000	6.410	64.103	64.103
258	10.200	33.464	-10.200	-33.464	77.805	2.929	58.520	3.765	5	4	8	6	4	114.551	1.996	1.513	0.483	15.475	0.831	37.269	30.961	18.903	15.704	50.124	3.864	75.810	0.017	0.018	49.235	7.279	50.235	2.466	29.189	53.538	37.310	-0.306	2.794	217.514	0.000	0.000	0.000	6.192	61.923	61.923
259	10.250	33.628	-10.250	-33.628	77.084	3.064	32.640	3.975	5	4	8	6	4	114.551	2.005	1.517	0.488	15.639	0.830	36.923	30.631	18.910	15.688	49.501	4.081	75.079	0.007	0.007	49.151	7.287	50.151	2.487	30.091	53.230	37.259	-0.322	2.810	216.705	0.000	0.000	0.000	6.126	61.262	61.262
260	10.300	33.792	-10.300	-33.792	78.469	2.398	3.120	3.056	6	4	8	6	4	114.551	2.015	1.522	0.493	15.803	0.828	30.070	24.910	18.482	15.311	50.266	3.136	76.456	-0.005	-0.005	50.527	7.508	51.527	2.399	26.361	53.700	37.338	-0.259	2.789	218.906	0.000	0.000	0.000	6.228	62.276	62.276
261	10.350	33.956	-10.350	-33.956	79.155	2.044	-13.690	2.582	6	5	8	6	4	114.551	2.024	1.526	0.498	15.967	0.827	30.332	25.093	18.196	15.053	50.569	2.650	77.131	-0.012	-0.012	51.175	7.624	52.175	2.345	24.214	53.909	37.372	-0.230	2.780	220.106	0.000	0.000	0.000	6.273	62.731	62.731
262	10.400	34.120	-10.400	-34.120	69.374	1.998	-12.250	2.880	6	4	8	6	4	114.551	2.034	1.530	0.503	16.132	0.826	26.584	21.961	16.501	13.632	44.026	2.967	67.341	-0.013	-0.013	44.605	6.683	45.605	2.420	27.250	50.089	36.736	-0.232	2.971	206.175	0.000	0.000	0.000	5.490	54.903	54.903
263	10.450	34.284	-10.450	-34.284	81.132	2.421	174.930	2.984	6	4	8	6	4	114.551	2.043	1.534	0.509	16.296	0.825	25.648	21.061	18.967	15.647	51.562	3.061	79.090	0.061	0.063	48.335	7.249	49.335	2.382	25.607	54.577	37.477	-0.248	2.752	223.373	0.000	0.000	0.000	6.412	64.119	64.119
264	10.500	34.448	-10.500	-34.448	107.231	3.119	48.240	2.909	6	5	9	6	4	114.551	2.052	1.539	0.514	16.460	0.824	41.091	33.851	24.063	19.823	68.383	2.965	105.180	0.009	0.009	67.738	10.128	68.738	2.290	22.139	62.491	38.803	-0.285	2.435	261.218	0.000	0.000	0.000	8.463	84.627	84.627
265	10.550	34.612	-10.550	-34.612	156.918	4.084	1.360	2.603	7	5	9	6	5	117.733	2.062	1.543	0.519	16.624	0.823	50.109	41.221	33.108	27.236	100.393	2.637	154.857	-0.003	-0.003	100.702	15.029	101.702	2.143	17.132	73.363	40.615	-0.310	2.141	336.102	0.000	0.000	0.000	12.366	123.664	123.664
266	10.600	34.776	-10.600	-34.776	171.863	5.552	-2.770	3.230	6	5	9	6	8	114.551	2.071	1.548	0.524	16.788	0.821	65.858	54.099	36.989	30.385	109.762	3.270	169.792	-0.004	-0.004	110.156	16.473	111.156	2.191	18.699	75.930	41.042	-0.370	2.080	357.675	0.000	0.000	0.000	13.525	135.248	135.248
267	10.650	34.941	-10.650	-34.941	177.085	6.490	136.920	3.665	12	8	9	6	8	120.915	2.081	1.552	0.529	16.952	0.820	84.824	69.577	0.000	0.000	112.801	3.708	175.005	0.021	0.021	110.387	16.555	111.387	2.227	0.000	76.746	41.178	-0.410	2.062	365.222	0.000	0.000	0.000	13.915	139.154	139.154
268	10.700	35.105	-10.700	-35.105	178.274	6.950	-17.040	3.899	12	8	9	6	8	120.915	2.091	1.557	0.534	17.116	0.819	85.393	69.936	0.000	0.000	113.211	3.945	176.183	-0.006	-0.006	113.896	17.130	114.896	2.248	0.000	76.894	41.203	-0.438	2.059	367.175	0.000	0.000	0.000	13.987	139.872	139.872
269	10.750	35.269	-10.750	-35.269	157.833	6.821	-13.990	4.322	11	9	9	6	8	130.461	2.101	1.562	0.539	17.280	0.818	151.204	123.628	0.000	0.000	99.737	4.380	155.732	-0.006	-0.006	100.362	15.162	101.362	2.316	0.000	73.355	40.613	-0.466	2.144	338.584	0.000	0.000	0.000	12.363	123.628	123.628
270	10.800	35.433	-10.800	-35.433	125.775	6.393	-8.820	5.083	11	9	9	6	8	130.461	2.112	1.568	0.544	17.445	0.816	120.492	98.342	0.000	0.000	79.440	12.076	80.440	2.433	0.000	66.796	39.520	-0.529	2.310	290.688	0.000	0.000	0.000	9.834	98.342	98.342
271	10.850	35.597	-10.850	-35.597	101.938	5.488	-14.670	5.384	11	4	9	6	8	130.461	2.123	1.573	0.550	17.609	0.815	97.657	79.563	25.299	20.612	63.473	5.498	99.817	-0.010	-0.010	64.113	9.810	65.113	2.511	31.177	60.722	38.508	-0.537	2.504	255.319	0.000	0.000	0.000	7.956	79.563	79.563
272	10.900	35.761	-10.900	-35.761	106.804	4.679	-15.430	4.381	11	4	9	6	3	130.461	2.133	1.579	0.555	17.773	0.813	82.318	63.213	25.509	20.743	66.324	4.470	104.671	-0.010	-0.010	66.981	10.278	67.981	2.429	27.609	59.555	38.722	-0.409	2.459	262.723	0.000	0.000	0.000	8.321	83.213	83.213
273	10.950	35.925	-10.950	-35.925	97.653	2.831	-15.480	2.899	6	5	9	6	4	114.551	2.143	1.584	0.560	17.937	0.812	37.421	30.386	22.218	18.042	60.332	2.964	95.511	-0.011	-0.011	60.990	9.401	61.990	2.321	23.320	59.396	38.287	-0.271	2.555	249.653	0.000	0.000	0.000	7.597	75.965	75.965
274	11.000	36.089	-11.000	-36.089	75.746	2.276	-15.040	3.005	6	4	8	6	4	114.551	2.153	1.588	0.565	18.101	0.811	29.026	23.538	17.945	14.552	46.362	3.093	73.594	-0.014	-0.014	47.014	7.301	48.014	2.412	26.890	52.076	37.067	-0.246	2.882	218.402	0.000	0.000	0.000	5.884	58.844	58.844
275	11.050	36.253	-11.050	-36.253	86.668	1.671	-8.270	1.928	7	5	9	6	5	117.733	2.162	1.592	0.570	18.265	0.810	27.676	22.412	19.000	15.387	53.090	1.977	84.507	-0.010	-0.010	53.610	8.328	54.610	2.235	20.194	55.897	37.704	-0.195	2.703	234.328	0.000	0.000	0.000	6.724	67.236	67.236
276	11.100	36.417	-11.100	-36.417	74.173	1.544	-10.670	2.082	7	5	9	6	5	117.733	2.172	1.597	0.575	18.429	0.809	23.686	19.154	16.787	13.575	45.105	2.144	72.002	-0.012	-0.013	45.674	7.138	46.674	2.309	22.867	51.394	36.953	-0.188	2.918	216.561	0.000	0.000	0.000	5.746	57.461	57.461
277	11.150	36.581	-11.150	-36.581	68.096	2.455	-10.260	3.605	5	4	8	6	4	114.551	2.182	1.601	0.580	18.594	0.808	32.618	26.340	16.835	13.595	41.179	3.724	65.915	-0.013	-0.014	41.741	6.554	42.741	2.503	30.814	48.904	36.538	-0.271	3.049	207.735	0.000	0.000	0.000	5.268	52.680	52.680
278	11.200	36.745	-11.200	-36.745	139.775	2.422	21.600	1.733	8	5	9	6	5	120.915	2.191	1.606	0.585	18.758	0.806	33.476	26.995	28.444	22.937	85.709	1.760	137.584	0.001	0.001	85.653	13.326	86.653	2.052	14.406	69.476	39.967	-0.231	2.247	314.178	0.000	0.000	0.000	10.798	107.979	107.979
279	11.250	36.909	-11.250	-36.909	280.035	2.614	2.330	0.933	9	6	10	6	6	124.097	2.201	1.611	0.590	18.922	0.805	53.655	43.200	49.171	39.591	172.549	0.941	277.834	-0.002	-0.002	172.870	26.820	173.870	1.647	5.164	89.350	43.279	-0.233	0.000	0.000	0.000	0.000	0.000	21.600	216.002	216.002
280	11.300	37.073	-11.300	-37.073	390.375	3.391	2.370	0.810	10	6	10	6	6	127.279	2.212	1.616	0.596	19.086	0.804	57.779	46.447	61.038	49.066	222.652	0.815	359.664	-0.001	-0.001	222.974	34.661	223.974	1.528	3.216	0.000	44.496	-0.243	0.000	0.000	0.000	0.000	0.000	27.868	278.680	278.680
281	11.350	37.237	-11.350	-37.237	390.375	3.391	2.360	0.869	10	6	10	7	6	127.279	2.222	1.621	0.601	19.250	0.803	62.330	50.022	65.877	52.869	239.500	0.874	388.154	-0.001	-0.001	239.825	37.391	240.825	1.528	3.238	0.000	44.850	-0.256	0.000	0.000	0.000	0.000	0.000	30.013	300.134	300.134
282	11.400	37.401	-11.400	-37.401	390.633	4.204	2.150	1.076	9	6	10	7	8	124.097	2.232	1.627	0.606	19.414	0.801	74.845	59.971	67.505	54.090	238.888	1.082	388.402	-0.001	-0.001	239.219	37.416	240.219	1.600	4.360	0.000	44.846	-0.278	0.000	0.000	0.000	0.000	0.000	29.985	299.853	299.853
283	11.450	37.565	-11.450	-37.565	387.382	4.723	3.540	1.219	9	6	10	7	8	124.097	2.243	1.632	0.611	19.578	0.800	74.222	59.379	67.974	54.380	236.148	1.226	385.140	-0.001	-0.001	236.454	37.101	237.454	1.645	5.129	0.000	44.799	-0.291	0.000	0.000	0.000	0.000	0.000	29.690	296.896	296.896
284	11.500	37.729	-11.500	-37.729	391.189	4.964	9.410	1.269	9	6	10	7	8	124.097	2.253	1.637	0.616	19.743	0.799	74.952	59.870	68.914	55.047	237.738	1.276	388.937	-0.001	-0.001	237.935	37.448	238.935	1.657	5.334	0.000	44.838	-0.296	0.000	0.000	0.000	0.000	0.000	29.935	299.350	299.350
285	11.550	37.893	-11.550	-37.893	399.868	5.107	10.850	1.277	9	6	10	7	8	124.097	2.263	1.642	0.621	19.907	0.798	76.615	61.104	70.369	56.123	242.288	1.284	397.606	-0.001	-0.001	242.460	38.275	243.460	1.654	5.280	0.000	44.935	-0.299	0.000	0.000	0.000	0.000	0.000	30.552	305.519	305.519
286	11.600	38.057	-11.600	-38.057	399.739	4.811	9.480	1.204	9	6	10	7	8	124.097	2.273	1.647	0.626	20.071	0.796	76.590	60.990	69.869	55.638	241.459	1.210	397.467	-0.001	-0.001	241.660	38.267	242.660	1.634	4.929	0.000	44.927	-0.292	0.000	0.000	0.000	0.000	0.000	30.495	304.952	304.952
287	11.650	38.221	-11.650	-38.221	388.073	4.204	13.230	1.083	9	6	10	7	8	124.097	2.283	1.652	0.631	20.235	0.795	74.355	59.120	67.201	53.431	233.648	1.090	385.790	-0.001	-0.001	233.780	37.138	234.780	1.606	4.461	0.000	44.778	-0.277	0.000	0.000	0.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
340	14.300	46.915	-14.300	-46.915	203.868	2.739	4.450	1.344	8	6	9	6	5	120.915	2.822	1.919	0.903	28.934	0.738	48.826	36.018	38.933	28.719	104.805	1.362	201.047	-0.004	-0.004	105.203	19.517	106.203	1.885	10.039	77.741	41.344	-0.223	2.089	426.117	0.000	0.000	0.000	14.407	144.070	144.070
341	14.350	47.079	-14.350	-47.079	241.727	3.169	-3.730	1.311	9	6	9	6	5	124.097	2.832	1.924	0.908	29.098	0.737	46.315	34.121	45.183	33.287	124.217	1.327	238.896	-0.004	-0.004	124.749	23.169	125.749	1.826	8.693	82.587	42.152	-0.237	1.994	482.237	0.000	0.000	0.000	17.061	170.606	170.606
342	14.400	47.244	-14.400	-47.244	272.966	2.555	-8.620	0.936	9	6	10	6	6	124.097	2.842	1.929	0.913	29.263	0.736	52.300	38.480	48.533	35.708	140.086	0.946	270.125	-0.004	-0.004	140.699	26.176	141.699	1.684	5.822	86.033	42.726	-0.214	2.052	560.361	0.000	0.000	0.000	19.240	192.401	192.401
343	14.450	47.408	-14.450	-47.408	296.707	2.430	-8.560	0.819	9	6	10	6	6	124.097	2.852	1.934	0.918	29.427	0.735	56.849	41.772	51.578	37.899	151.994	0.827	293.855	-0.004	-0.004	152.607	28.450	153.607	1.618	4.654	88.386	43.118	-0.209	0.000	0.000	0.000	0.000	0.000	20.886	208.861	208.861
344	14.500	47.572	-14.500	-47.572	364.342	0.627	-6.090	0.172	10	7	10	7	7	127.279	2.863	1.939	0.923	29.591	0.734	58.173	42.688	54.856	40.254	186.472	0.173	361.480	-0.003	-0.003	187.047	34.922	188.047	1.157	0.000	94.234	44.093	-0.094	0.000	0.000	0.000	0.000	0.000	25.613	256.128	256.128
345	14.550	47.736	-14.550	-47.736	441.231	1.802	-3.000	0.408	10	6	10	7	6	127.279	2.873	1.945	0.929	29.755	0.733	70.450	51.626	69.027	50.583	225.512	0.411	438.359	-0.002	-0.002	226.038	42.279	227.038	1.286	0.264	0.000	45.001	-0.183	0.000	0.000	0.000	0.000	0.000	30.976	309.756	309.756
346	14.600	47.900	-14.600	-47.900	576.719	3.261	27.090	0.565	10	6	10	7	6	127.279	2.884	1.950	0.934	29.919	0.732	92.083	67.386	90.659	66.344	294.403	0.568	573.837	-0.000	-0.000	294.448	55.169	295.448	1.302	0.425	0.000	46.274	-0.235	0.000	0.000	0.000	0.000	0.000	40.432	404.319	404.319
347	14.650	48.064	-14.650	-48.064	545.600	3.089	11.280	0.566	10	6	10	7	6	127.279	2.894	1.955	0.939	30.083	0.731	87.114	63.664	86.211	63.004	277.674	0.569	542.708	-0.001	-0.001	277.974	52.235	278.974	1.319	0.603	0.000	46.002	-0.230	0.000	0.000	0.000	0.000	0.000	38.198	381.982	381.982
348	14.700	48.228	-14.700	-48.228	541.690	2.616	7.980	0.483	10	6	10	7	6	127.279	2.905	1.961	0.944	30.247	0.730	86.490	63.121	84.370	61.574	274.920	0.486	538.787	-0.001	-0.001	275.274	51.870	276.274	1.271	0.118	0.000	45.962	-0.215	0.000	0.000	0.000	0.000	0.000	37.873	378.729	378.729
349	14.750	48.392	-14.750	-48.392	564.835	0.941	10.350	0.167	10	7	10	7	7	127.279	2.915	1.966	0.949	30.412	0.729	90.185	65.729	80.902	58.963	285.949	0.167	561.921	-0.001	-0.001	286.267	54.080	287.267	0.980	0.000	0.000	46.155	-0.128	0.000	0.000	0.000	0.000	0.000	39.438	394.376	394.376
350	14.800	48.556	-14.800	-48.556	575.240	2.283	14.450	0.397	10	7	10	7	6	127.279	2.925	1.971	0.954	30.576	0.728	91.847	66.850	87.555	63.726	290.452	0.399	572.316	-0.001	-0.001	290.708	55.065	291.708	1.194	0.000	0.000	46.236	-0.202	0.000	0.000	0.000	0.000	0.000	40.110	401.099	401.099
351	14.850	48.720	-14.850	-48.720	478.264	3.325	2.170	0.695	10	6	10	7	6	127.279	2.936	1.977	0.959	30.740	0.727	76.363	55.505	78.104	56.771	240.582	0.700	475.329	-0.002	-0.002	241.033	45.811	242.033	1.425	1.837	0.000	45.347	-0.236	0.000	0.000	0.000	0.000	0.000	33.303	333.031	333.031
352	14.900	48.884	-14.900	-48.884	434.626	3.497	0.940	0.805	10	6	10	7	6	127.279	2.946	1.982	0.964	30.904	0.726	69.395	50.373	72.711	52.780	217.903	0.810	431.681	-0.002	-0.002	218.375	41.634	219.375	1.501	2.850	0.000	44.884	-0.240	0.000	0.000	0.000	0.000	0.000	30.224	302.238	302.238
353	14.950	49.048	-14.950	-49.048	412.719	3.630	3.090	0.880	10	6	10	7	6	127.279	2.957	1.987	0.970	31.068	0.725	65.898	47.770	70.050	50.780	206.286	0.886	409.764	-0.002	-0.002	206.726	39.529	207.726	1.545	3.502	0.000	44.630	-0.244	0.000	0.000	0.000	0.000	0.000	28.662	286.620	286.620
354	15.000	49.212	-15.000	-49.212	405.945	3.348	5.560	0.825	10	6	10	7	6	127.279	2.967	1.993	0.975	31.232	0.724	64.816	46.923	68.546	49.624	202.329	0.831	402.979	-0.002	-0.002	202.731	38.873	203.731	1.530	3.266	0.000	44.545	-0.236	0.000	0.000	0.000	0.000	0.000	28.154	281.538	281.538
355	15.050	49.376	-15.050	-49.376	371.462	2.944	33.990	0.793	10	6	10	7	6	127.279	2.978	1.998	0.980	31.396	0.723	59.310	42.880	63.010	45.555	184.518	0.799	368.486	0.000	0.000	184.477	35.484	185.477	1.544	3.475	94.362	44.114	-0.224	0.000	0.000	0.000	0.000	0.000	25.728	257.280	257.280
356	15.100	49.540	-15.100	-49.540	340.679	2.917	28.670	0.856	9	6	10	6	6	124.097	2.988	2.003	0.985	31.561	0.722	65.274	47.131	58.766	42.432	168.660	0.864	337.692	-0.000	-0.000	168.705	32.551	169.705	1.594	4.271	91.845	43.695	-0.223	0.000	0.000	0.000	0.000	0.000	23.565	235.653	235.653
357	15.150	49.704	-15.150	-49.704	303.425	3.045	24.750	1.004	9	6	10	6	6	124.097	2.998	2.008	0.990	31.725	0.721	58.136	41.924	53.870	38.848	149.670	1.014	300.428	-0.001	-0.001	149.778	28.994	150.778	1.680	5.744	88.490	43.136	-0.227	0.000	0.000	0.000	0.000	0.000	20.962	209.619	209.619
358	15.200	49.868	-15.200	-49.868	311.999	3.389	33.510	1.086	9	6	10	6	5	124.097	3.008	2.013	0.995	31.889	0.720	59.779	43.054	55.725	40.135	153.550	1.097	308.992	0.000	0.000	153.524	29.789	154.524	1.697	6.066	89.253	43.263	-0.237	0.000	0.000	0.000	0.000	0.000	21.527	215.272	215.272
359	15.250	50.032	-15.250	-50.032	384.838	3.454	33.260	0.898	9	6	10	7	6	124.097	3.018	2.018	1.000	32.053	0.719	73.735	53.039	65.946	47.436	189.265	0.905	361.820	0.000	0.000	189.246	36.768	190.246	1.575	3.952	0.000	44.259	-0.238	0.000	0.000	0.000	0.000	0.000	26.520	265.196	265.196
360	15.300	50.196	-15.300	-50.196	451.823	1.448	26.050	0.320	10	6	10	7	6	127.279	3.029	2.023	1.005	32.217	0.718	72.141	51.826	69.285	49.774	221.894	0.323	448.795	-0.000	-0.000	221.988	43.207	222.988	1.219	0.000	0.000	45.020	-0.161	0.000	0.000	0.000	0.000	0.000	31.096	310.956	310.956
361	15.350	50.360	-15.350	-50.360	533.661	0.010	25.870	0.002	10	0	10	7	0	127.279	3.039	2.029	1.010	32.381	0.717	85.208	61.133	0.000	0.000	261.663	0.002	530.624	-0.000	-0.000	261.763	51.047	262.763	1.756	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	36.680	366.798	366.798
362	15.400	50.524	-15.400	-50.524	604.863	0.010	51.670	0.002	10	0	10	7	0	127.279	3.050	2.034	1.016	32.545	0.717	96.576	69.199	0.000	0.000	295.993	0.002	601.814	0.001	0.001	295.699	57.791	296.699	1.777	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	41.519	415.192	415.192

ConeTec CPT Interpretations	
Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011	
DAS Version: W47	
Interpretation Format:	All but Liquefaction Parameters (NLI)
Run ID:	1347638889
Job No:	12-972
Client:	TertaTech
Project:	Dump Road
Facility:	Dump Road
Sounding ID:	DR-CPT-12
Cone ID:	167:T1500F15U500
Operator:	TS-TW
CPT Date:	Aug-28-2012
CPT Time:	08:44
CPT File:	972CP12.COR
Tip Units:	tsf
Sleeve Units:	tsf
PP Units:	ft
Tip Conversion to bar:	0.9580
Sleeve Conversion to bar:	0.9580
PP Conversion to meters:	0.3050
Col 5 (Extra Module) Parameter	N/A
Col 5 (Extra Module) Units	N/A
Coord Source:	
Coord Type:	
UTM Zone:	N/A
Easting / Long:	76.407510
Northing / Lat:	39.324740
Elevation:	0.000
Tip Net Area Ratio:	0.80
Unit Weight of Soil Base:	Based on Soil Zones
Unit Weight of Soil (Def):	18.64 kN/m^3 118.62 pcf
Unit Weight of Water:	9.81 kN/m^3 62.43 pcf
Equilibrium U Profile Used:	No
Soil Unit Weight Profile Used:	No
Water Table	4.57 m 15.00 ft
Averaging Interval:	0.00 m 0.00 ft
Su Factors Nkt and Ndu:	15.0 8.0
Cn Exp. and Limits:	0.50 0.00 1.70
Qc1 Exp. and Limits:	0.50 0.00 1.70
State Parameter M:	1.20
NC Su / p':	0.30
Relative Density Method:	All Sands - Jamilokowski (1985)
Phi Angle Method:	Kulhawy and Mayne (1990)
Youngs Modulus Sand Type:	Recent
N160lc Method:	Based on qc1n

Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (lc)	N160 (lc)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
m	ft	m	ft	tsf	tsf	ft	%						pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa			%	%	deg			tsf	tsf	tsf		MPa		
0.050	0.164	-0.050	-0.164	4.755	0.049	0.840	1.030	1	6	4	7	8	111.369	0.009	0.009	0.000	0.000	1.700	2.278	3.872	1.417	2.410	519.631	1.032	4.746	0.006	0.006	516.761	0.453	517.761	2.861	49.586	46.653	27.379	-0.346	0.000	0.000	0.000	0.000	0.000	0.774	7.744	7.744
0.100	0.328	-0.100	-0.328	9.960	0.109	1.650	1.094	5	6	6	7	8	114.551	0.018	0.018	0.000	0.000	1.700	4.771	8.111	2.566	4.362	540.388	1.096	9.942	0.005	0.005	537.589	0.949	538.589	2.587	34.746	57.809	30.911	-0.357	0.000	0.000	0.000	0.000	0.000	1.622	16.221	16.221
0.150	0.492	-0.150	-0.492	18.332	0.412	3.450	2.247	5	8	6	7	8	114.551	0.028	0.028	0.000	0.000	1.700	8.781	14.927	0.000	0.000	658.591	2.251	18.304	0.006	0.006	654.716	1.746	655.716	2.540	0.000	69.382	33.825	-0.493	0.000	0.000	0.000	0.000	0.000	2.985	29.855	29.855
0.200	0.656	-0.200	-0.656	36.233	0.364	2.060	1.005	7	6	8	7	8	117.733	0.037	0.037	0.000	0.000	1.700	11.570	19.670	7.493	12.739	969.939	1.006	36.196	0.002	0.002	968.216	3.465	969.216	2.093	15.604	84.688	37.080	-0.403	2.702	97.930	0.000	0.000	0.000	5.901	59.009	59.009
0.250	0.820	-0.250	-0.820	69.116	0.366	2.540	0.530	8	0	8	0	0	120.915	0.047	0.047	0.000	0.000	1.700	16.553	28.141	0.000	0.000	1466.324	0.530	69.069	0.001	0.001	1464.641	6.614	1465.641	1.704	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.256	112.562	112.562
0.300	0.984	-0.300	-0.984	60.281	0.339	14.640	0.562	8	0	8	0	0	120.915	0.057	0.057	0.000	0.000	1.700	14.437	24.544	0.000	0.000	1056.200	0.563	60.224	0.008	0.008	1048.186	5.731	1049.186	1.768	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.817	98.174	98.174
0.350	1.148	-0.350	-1.148	72.576	0.474	2.620	0.653	8	0	8	0	0	120.915	0.067	0.067	0.000	0.000	1.700	17.382	29.549	0.000	0.000	1083.260	0.654	72.509	0.001	0.001	1082.038	6.945	1083.038	1.739	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.820	118.198	118.198
0.400	1.312	-0.400	-1.312	95.259	0.580	4.630	0.609	8	0	9	0	0	120.915	0.077	0.077	0.000	0.000	1.700	22.815	38.785	0.000	0.000	1238.498	0.609	95.182	0.002	0.002	1236.617	9.112	1237.617	1.627	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.514	155.139	155.139
0.450	1.476	-0.450	-1.476	118.755	0.967	-0.750	0.814	9	0	9	0	0	124.097	0.087	0.087	0.000	0.000	1.700	22.754	38.681	0.000	0.000	1365.578	0.815	118.668	-0.000	-0.000	1365.847	11.379	1366.847	1.637	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.340	193.405	193.405
0.500	1.640	-0.500	-1.640	128.436	1.506	8.970	1.173	8	0	9	0	0	120.915	0.097	0.097	0.000	0.000	1.700	30.760	52.293	0.000	0.000	1323.810	1.173	128.339	0.002	0.002	1320.921	12.277	1321.921	1.727	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	20.917	209.171	209.171
0.550	1.804	-0.550	-1.804	142.707	1.291	-0.520	0.905	9	0	9	0	0	124.097	0.107	0.107	0.000	0.000	1.700	27.343	46.482	0.000	0.000	1332.786	0.905	142.600	-0.000	-0.000	1332.938	13.673	1333.938	1.613	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.241	232.412	232.412
0.600	1.968	-0.600	-1.968	137.548	1.524	7.700	1.108	8	0	9	0	0	120.915	0.117	0.117	0.000	0.000	1.700	32.943	56.003	0.000	0.000	1174.216	1.109	137.431	0.002	0.002	1172.162	13.154	1173.162	1.689	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22.401	224.011	224.011
0.650	2.133	-0.650	-2.133	117.957	1.481	-0.550	1.256	8	6	9	7	8	120.915	0.127	0.127	0.000	0.000	1.700	28.251	48.026	21.642	36.792	928.105	1.257	117.830	-0.000	-0.000	928.240	11.302	929.240	1.774	7.582	0.000	42.719	-0.427	1.959	231.120	0.000	0.000	0.000	19.210	192.104	192.104
0.700	2.297	-0.700	-2.297	110.947	1.114	4.360	1.004	8	6	9	7	8	120.915	0.137	0.137	0.000	0.000	1.700	26.572	45.172	19.987	33.977	809.581	1.005	110.810	0.001	0.001	808.587	10.616	809.587	1.722	6.538	0.000	42.426	-0.386	1.895	210.347	0.000	0.000	0.000	18.069	180.689	180.689
0.750	2.461	-0.750	-2.461	88.239	1.170	-0.090	1.326	8	6	9	7	8	120.915	0.147	0.147	0.000	0.000	1.700	21.133	35.927	16.807	28.572	600.126	1.328	88.093	-0.000	-0.000	600.145	8.454	601.145	1.878	9.870	90.573	41.332	-0.392	1.933	170.597	0.000	0.000	0.000	14.371	143.707	143.707
0.800	2.625	-0.800	-2.625	71.909	0.569	1.370	0.791	8	6	8	7	8	120.915	0.157	0.157	0.000	0.000	1.700	17.222	29.278	13.284	22.583	457.874	0.793	71.752	0.001	0.001	457.601	6.885	458.601	1.794	7.984	83.770	40.355	-0.307	2.048	147.323	0.000	0.000	0.000	11.711	117.110	117.110
0.850	2.789	-0.850	-2.789	61.195	0.762	-0.840	1.245	7	6	8	7	8	117.733	0.167	0.167	0.000	0.000	1.700	19.542	33.221	12.083	20.542	366.552	1.249	61.028	-0.000	-0.000	366.710	5.865	367.710	1.974	12.266	78.278	39.584	-0.336	2.153	131.813	0.000	0.000	0.000	9.966	99.662	99.662
0.900	2.953	-0.900	-2.953	55.337	0.580	-0.490	1.048	7	6	8	7	8	117.733	0.176	0.176	0.000	0.000	1.700	17.671	30.041	10.863	18.467	313.150	1.051	55.161	-0.000	-0.000	313.237	5.303	314.237	1.959	11.866	74.585	39.103	-0.301	2.231	123.497	0.000	0.000	0.000	9.012	90.122	90.122
0.950	3.117	-0.950	-3.117	44.089	0.430	-0.150	0.975	7	6	8	7	6	117.733	0.186	0.186	0.000	0.000	1.700	14.079	23.934	8.852	15.048	236.288	0.979	43.903	-0.000	-0.000	236.314	4.224	237.314	2.018	13.432	67.307	38.018	-0.267	2.454	108.250	0.000	0.000	0.000	7.180	71.803	71.803
1.000	3.281	-1.000	-3.281	40.779	0.377	-0.110	0.924	7	6	8	7	6	117.733	0.196	0.196	0.000	0.000	1.700	13.022	22.138	8.231	13.992	207.633	0.929	40.584	-0.000	-0.000	207.651	3.907	208.651	2.031	13.812	64.345	37.645	-0.249	2.547	103.910	0.000	0.000	0.000	6.641	66.413	66.413
1.050	3.445	-1.050	-3.445	40.007	0.264	-0.480	0.660	7	6	8	7	6	117.733	0.205	0.205	0.000	0.000	1.700	12.776	21.718	7.846	13.338	194.047	0.663	39.802	-0.000	-0.000	194.120	3.834	195.120	1.956	11.799	63.106	37.553	-0.211	2.571	102.899	0.000	0.000	0.000	6.516	65.155	65.155
1.100	3.609	-1.100	-3.609	40.468	1.055	-0.400	2.607	6	8	8	7	8	114.551	0.215	0.215	0.000	0.000	1.700	15.507	26.362	0.000	0.000	187.537	2.621	40.253	-0.000	-0.000	187.595	3.878	188.595	2.326	0.000	62.783	37.608	-0.383	2.557	103.502	0.000	0.000	0.000	6.591	65.905	65.905
1.150	3.773	-1.150	-3.773	47.545	1.494	0.810	3.142	6	8	8	7	8	114.551	0.224	0.224	0.000	0.000	1.700	18.219	30.973	0.000	0.000	211.222	3.157	47.321	0.001	0.001	211.109	4.552	212.109	2.336	0.000	66.789	38.378	-0.446	2.372	112.833	0.000	0.000	0.000	7.743	77.432	77.432
1.200	3.937	-1.200	-3.937	99.100	1.916	1.680	1.933	7	8	9	7	8	117.733	0.234	0.234	0.000	0.000	1.700	31.646	53.798	0.000	0.000	423.305	1.938	98.867	0.001	0.001	423.081	9.489	424.081	1.966	0.000	87.244	41.887	-0.415	1.885	186.853	0.000	0.000	0.000	16.140	161.395	161.395
1.250	4.101	-1.250	-4.101	185.896	1.615	4.160	0.869	9	7	9	7	8	124.097	0.244	0.244	0.000	0.000	1.700	35.618	60.550	31.331	53.263	762.508	0.870	185.652	0.001	0.001	761.975	17.796	762.975	1.524	3.181	0.000	44.892	-0.364	0.000	0.000	0.000	0.000	0.000	30.275	302.750	302.750
1.300	4.265	-1.300	-4.265	23.419	1.061	7.810	4.531	3	9	7	6	8	111.369	0.253	0.253	0.000	0.000	1.700	22.435	38.140	0.000	0.000	91.516	4.580	23.166	0.010	0.011	90.553	2.220	91.553	2.665	0.000	44.741	34.995	-0.472	3.365	78.836	0.000	0.000	0.000	3.814	38.140	38.140
1.350	4.429	-1.350	-4.429	35.858	1.166	-0.250	3.252	5	8	8	6	8	114.551	0.263	0.263	0.000	0.000	1.700	17.176	29.200	0.000	0.000	135.658	3.276	35.596	-0.000	-0.000	135.688	3.436	136.688	2.432	0.000	56.438	37.030	-0.399	2.716	97.432	0.000	0.000	0.000	5.840	58.399	58.399
1.400	4.593	-1.400	-4.593	38.883	0.639	8.480	1.643	7	6	8	6	5	117.733	0.272	0.272	0.000	0.000	1.700	12.417	21.108	8.410	14.298	141.994	1.655	38.611	0.007	0.007	141.020	3.700	142.020	2.203	19.099	58.248	37.417	-0.275	2.607	101.426	0.000	0.000	0.000	6.332	63.325	63.325
1.450	4.757	-1.450	-4.757	220.354	1.418	2.170	0.644	9	7	9	7	8	124.097	0.282	0.282	0.000	0.000	1.700	42.220	71.774	35.447	60.260	780.847	0.644	220.072	0.000	0.000	780.607	21.103	781.607	1.377	1.251	0.000	45.704	-0.334	0.000	0.000	0.000	0.000	0.000	35.887	358.868	358.868
1.500	4.921	-1.500	-4.921	278.823	2.300	22.830	0.825	9	7	10	7	8	124.097	0.292	0.292	0.000	0.000	1.700	53.422	90.818	45.139	76.736	953.824	0.826	278.531	0.003	0.003	951.384	26.643	952.384	1.398	1.494	0.000	46.829	-0.378	0.000	0.000	0.000	0.000	0.000	45.409	454.090	454.090
1.550	5.085	-1.550	-5.085	269.540	2.783	22.360	1.033	9	6	10	7	8	124.097	0.302	0.302	0.000	0.000	1.700	51.644	87.794	44.877	76.291	890.948	1.034	269.237	0.003	0.003	888.638	25.755	889.638	1.486	2.642	0.000	46.667	-0.398	0.000	0.000	0.000	0.000	0.000	43.897	438.972	438.972
1.600	5.249	-1.600	-5.249	259.820	3.377	14.410	1.300	9	6	10	7	8	124.097	0.312	0.312	0.000	0.000	1.700	49.782	84.629	44.583	75.792	830.771	1.301	259.508	0.002	0.002	829.331	24.848	830.331	1.579	4.017	0.000	46.491	-0.421	0.000	0.000	0.000	0.000	0.000	42.314	423.143	423.143
1.650	5.413	-1.650	-5.413	255.527	3.373	-3.740	1.320	9	6	10	7	8	124.097	0.323	0.323	0.000	0.000	1.700	48.959	83.230	43.986	74.776	791.215	1.322	255.204	-0.000	-0.000	791.577	24.491	792.577	1.588	4.170	0.000	46.412	-0.419	0.000	0.000	0.000	0.000	0.000	41.615	416.151	416.151
1.700	5.577	-1.700	-5.577	235.570	2.665	35.190	1.131	9	6	9	7	8	124.097	0.333	0.333	0.000	0.000	1.700	45.135	76.730	40.069	68.117	707.002	1.133	235.237	0.005	0.005	703.701	22.462	704.701	1.552	3.602	0.000	46.023	-0.387	0.000	0.000	0.000	0.000	0.000	38.365	383.649	383.649
1.750	5.741	-1.750	-5.741	220.675	1.622	0.810	0.735	9	7	9	7	8	124.097	0.343	0.343	0.000	0.000	1.700	42.281	71.878	35.983	61.170	642.552	0.736	220.332	0.000	0.000	642.478	21.138	643.478	1.420	1.776	0.000	45.711	-0.330	0.000	0.000	0.000	0.000	0.000	35.939	359.391	359.391
1.800	5.905	-1.800	-5.905	237.058	1.492	-0.350	0.629	9	7	9	7	8	124.097	0.353	0.353	0.000	0.000	1.700	45.420	77.214	37.804	64.267	670.401	0.630	236.705	-0.000	-0.000	670.432	22.711	671.432	1.349	0.930	0.000	46.053	-0.318	0.000	0.000	0.000	0.000	0.000	38.607	386.072	386.072
1.850	6.069	-1.850	-6.069	239.479	1.945	9.410	0.812	9	7	9	7	8	124.097	0.363	0.363	0.000	0.000	1.695	45.884	77.781	39.198	66.447	658.255	0.813	239.115	0.001	0.001	657.446	22.914	658.446	1.433	1.929	0.000	46.088	-0.343	0.000	0.000	0.000	0.000	0.000	38.890	388.904	388.904
1.900	6.234	-1.900	-6.234	256.949	3.720	39.920	1.448	8	6	9	7	8	120.915	0.373	0.373	0.000	0.000	1.672	61.539	102.906	44.775	74.872	687.311	1.450	256.576	0.005	0.005	683.973	24.496	684.973	1.625	4.775	0.000	46.359	-0.418	0.000	0.000	0.000	0.000	0.000	41.162	411.622	411.622
1.950	6.398	-1.950	-6.398	176.847	2.767	-0.430	1.565	8	6	9	7	8	120.915	0.383	0.383	0.000	0.000	1.650	42.355	69.903	32.132	53.032	460.477	1.568	176.464	-0.000	-0.000	460.512	16.943	461.512	1.747	7.020	0.000	44.512	-0.389	0.000	0.000	0.000	0.000	0.000	27.961	279.613	279.613
2.000	6.562	-2.000	-6.562	107.793	2.414	3.750	2.239	7	8	9	7	8	117.733	0.393	0.393	0.000	0.000	1.630	34.422	56.099	0.000	0.000	273.279	2.248	107.400	0.001	0.001	272.981	10.315	273.981	2.004	0.000	82.196	42.087	-0.394	1.878	202.537	0.000	0.000	0.000	16.830	168.297	168.297
2.050	6.726	-2.050	-6.726	111.191	1.605	-4.660	1.443	8	6	9	7	8	120.915	0.403	0.403	0.000	0.000	1.610	26.630	42.870	20.987	33.785	275.050	1.449	110.788	-0.001	-0.001	275.411	10.666	276.411	1.853	9.295	82.733	42.176	-0.326	1.879	208.961	0.000	0.000	0.000	17.148	171.479	171.479
2.100	6.890	-2.100	-6.890	93.979	1.971	-6.630	2.097	7	6	9	7	8	117.733	0.413	0.413	0.000	0.000	1.591	30.011	47.735	18.937	30.122	226.784	2.107	93.566	-0.002	-0.002	227.285	9.023	228.285	2.027	13.695	77.569	41.316	-0.362	1.934	181.861	0.000	0.000	0.000	14.321	143.205	143.205
2.150	7.054	-2.150	-7.054	66.592	1.865	-4.450	2.801	6	5	8	6	8	114.551	0.422	0.422	0.000	0.000	1.573	25.518	40.129	14.530	22.849	156.763	2.818	66.170	-0.002	-0.002	157.092	6.393	158.092	2.224	19.805	67.368	39.615	-0.378	2.148	143.124	0.000	0.000	0.000	10.032	100.322	100.322

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
98	2.200	7.218	-2.200	-7.218	32.553	1.990	-1.090	6.113	3	9	7	6	8	111.369	0.432	0.432	0.000	0.000	1.556	31.186	48.512	0.000	0.000	74.465	6.195	32.122	-0.001	-0.001	74.544	3.122	75.544	2.664	0.000	46.542	36.144	-0.725	2.987	97.281	0.000	0.000	0.000	4.851	48.512	53.016
99	2.250	7.382	-2.250	-7.382	47.712	0.622	3.500	1.304	7	6	8	6	5	117.733	0.441	0.441	0.000	0.000	1.539	15.236	23.447	9.910	15.251	107.249	1.316	47.271	0.002	0.002	107.001	4.560	108.001	2.104	15.931	57.191	37.919	-0.221	2.478	118.276	0.000	0.000	0.000	7.034	70.341	70.341
100	2.300	7.546	-2.300	-7.546	41.286	0.483	-3.900	1.170	7	6	8	6	5	117.733	0.451	0.451	0.000	0.000	1.522	13.184	20.070	8.659	13.182	90.661	1.183	40.835	-0.003	-0.003	90.931	3.967	91.931	2.128	16.671	52.734	37.176	-0.194	2.674	110.452	0.000	0.000	0.000	6.021	60.211	60.211
101	2.350	7.710	-2.350	-7.710	41.317	0.325	-2.090	0.787	7	6	8	6	6	117.733	0.460	0.460	0.000	0.000	1.506	13.194	19.874	8.340	12.563	88.805	0.795	40.857	-0.002	-0.002	88.947	3.964	89.947	2.032	13.820	52.452	37.129	-0.156	2.688	111.088	0.000	0.000	0.000	5.962	59.621	59.621
102	2.400	7.874	-2.400	-7.874	36.520	0.330	-0.040	0.904	7	6	8	6	5	117.733	0.470	0.470	0.000	0.000	1.491	11.662	17.385	7.615	11.353	76.746	0.915	36.050	-0.000	-0.000	76.749	3.499	77.749	2.114	16.230	48.616	36.490	-0.154	2.878	105.156	0.000	0.000	0.000	5.215	52.154	52.154
103	2.450	8.038	-2.450	-8.038	34.800	0.363	-1.590	1.043	7	6	7	6	5	117.733	0.480	0.480	0.000	0.000	1.476	11.113	16.398	7.425	10.957	71.593	1.058	34.321	-0.001	-0.001	71.697	3.339	72.697	2.170	18.012	46.942	36.211	-0.161	2.966	103.255	0.000	0.000	0.000	4.920	49.195	49.195
104	2.500	8.202	-2.500	-8.202	48.653	0.174	-1.080	0.358	8	6	8	6	6	120.915	0.489	0.489	0.000	0.000	1.461	11.652	17.022	9.048	13.218	98.461	0.361	48.164	-0.001	-0.001	98.530	4.664	99.530	1.812	5.000	56.258	37.764	-0.099	2.517	122.491	0.000	0.000	0.000	6.809	68.087	68.087
105	2.550	8.366	-2.550	-8.366	45.323	0.416	-1.140	0.918	7	6	8	6	5	117.733	0.499	0.499	0.000	0.000	1.446	14.473	20.934	9.218	13.333	89.835	0.928	44.824	-0.001	-0.001	89.907	4.345	90.907	2.051	14.365	53.941	37.378	-0.170	2.618	118.714	0.000	0.000	0.000	6.280	62.801	62.801
106	2.600	8.530	-2.600	-8.530	52.432	0.147	-1.320	0.280	8	6	8	6	6	120.915	0.509	0.509	0.000	0.000	1.432	12.557	17.987	9.529	13.650	102.062	0.283	51.923	-0.001	-0.001	102.143	5.027	103.143	1.747	5.000	57.839	38.027	-0.082	2.452	128.612	0.000	0.000	0.000	7.195	71.950	71.950
107	2.650	8.694	-2.650	-8.694	48.084	0.081	-0.990	0.168	8	6	8	6	6	120.915	0.519	0.519	0.000	0.000	1.419	11.516	16.337	8.641	12.259	91.708	0.170	47.565	-0.001	-0.001	91.768	4.609	92.768	1.715	5.000	55.081	37.568	-0.032	2.567	123.492	0.000	0.000	0.000	6.535	65.349	65.349
108	2.700	8.858	-2.700	-8.858	40.083	0.114	-1.090	0.284	8	6	8	6	6	120.915	0.529	0.529	0.000	0.000	1.405	9.600	13.491	7.601	10.682	74.833	0.288	39.555	-0.001	-0.001	74.897	3.843	75.897	1.866	5.000	49.593	36.653	-0.057	2.828	113.410	0.000	0.000	0.000	5.396	53.962	53.962
109	2.750	9.022	-2.750	-9.022	34.204	0.256	-0.890	0.748	7	6	7	6	5	117.733	0.539	0.539	0.000	0.000	1.392	10.923	15.209	7.148	9.954	62.534	0.760	33.666	-0.001	-0.001	62.586	3.279	63.586	2.119	16.397	44.784	35.852	-0.120	3.082	105.451	0.000	0.000	0.000	4.563	45.628	45.628
110	2.800	9.186	-2.800	-9.186	34.522	0.194	-1.340	0.562	7	6	7	6	6	117.733	0.548	0.548	0.000	0.000	1.380	11.024	15.214	7.039	9.714	61.994	0.571	33.974	-0.001	-0.001	62.070	3.311	63.070	2.057	14.548	44.794	35.853	-0.095	3.081	106.410	0.000	0.000	0.000	4.564	45.643	45.643
111	2.850	9.350	-2.850	-9.350	38.664	0.255	-0.980	0.660	7	6	8	6	6	117.733	0.558	0.558	0.000	0.000	1.368	12.347	16.892	7.866	10.761	68.331	0.669	38.106	-0.001	-0.001	68.386	3.707	69.386	2.052	14.386	47.792	36.353	-0.117	2.921	112.987	0.000	0.000	0.000	5.068	50.676	50.676
112	2.900	9.514	-2.900	-9.514	38.784	0.412	-0.980	1.062	7	5	8	6	5	117.733	0.568	0.568	0.000	0.000	1.356	12.385	16.799	8.263	11.208	67.362	1.078	38.217	-0.001	-0.001	67.416	3.718	68.416	2.166	17.888	47.635	36.327	-0.157	2.929	113.658	0.000	0.000	0.000	5.040	50.398	50.398
113	2.950	9.678	-2.950	-9.678	18.522	0.377	-1.220	2.035	6	5	6	6	4	114.551	0.577	0.577	0.000	0.000	1.345	7.098	9.548	4.800	6.456	31.109	2.101	17.946	-0.002	-0.002	31.175	1.778	32.175	2.599	35.320	0.000	32.756	-0.143	0.000	0.000	0.000	0.000	0.000	2.387	23.870	23.870
114	3.000	9.842	-3.000	-9.842	2.659	0.329	-1.690	12.371	0	0	3	3	0	118.624	0.587	0.587	0.000	0.000	1.334	2.548	3.399	0.000	0.000	3.535	15.870	2.073	-0.020	-0.025	3.625	0.260	4.625	3.794	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.340	3.399	3.535
115	3.050	10.006	-3.050	-10.006	2.394	0.106	-0.940	4.427	3	3	3	3	2	111.369	0.596	0.596	0.000	0.000	1.324	2.294	3.036	1.232	1.621	3.018	5.895	1.798	-0.012	-0.016	3.067	0.232	4.067	3.592	100.000	0.000	0.000	0.000	0.000	0.000	0.120	0.000	0.733	0.304	3.036	3.018
116	3.100	10.170	-3.100	-10.170	2.703	0.026	-1.070	0.962	1	3	3	3	1	111.369	0.605	0.605	0.000	0.000	1.314	1.295	1.701	1.009	1.351	3.468	1.239	2.098	-0.012	-0.016	3.524	0.262	4.524	3.211	73.830	0.000	0.000	0.000	0.000	0.000	0.140	0.000	0.806	0.340	3.402	3.468
117	3.150	10.335	-3.150	-10.335	4.272	0.017	-1.300	0.398	1	1	4	4	1	111.369	0.614	0.614	0.000	0.000	1.304	2.046	2.668	0.000	0.000	5.956	0.465	3.658	-0.009	-0.011	6.022	0.413	7.022	2.837	0.000	0.000	0.000	0.000	0.000	0.000	0.244	0.000	1.328	0.534	5.336	5.956
118	3.200	10.499	-3.200	-10.499	7.004	0.028	-0.960	0.400	1	5	5	4	5	111.369	0.624	0.624	0.000	0.000	1.294	3.355	4.342	1.822	2.779	10.238	0.439	6.381	-0.004	-0.005	10.286	0.674	11.286	2.607	35.678	0.000	27.926	0.085	0.000	0.000	0.000	0.000	0.868	8.684	10.238
119	3.250	10.663	-3.250	-10.663	11.224	0.056	-0.900	0.499	6	5	6	5	5	114.551	0.633	0.633	0.000	0.000	1.285	4.301	5.525	2.789	3.583	16.746	0.529	10.592	-0.003	-0.003	16.790	1.078	17.790	2.513	31.285	0.000	30.143	0.028	0.000	0.000	0.000	0.000	0.000	1.381	13.814	13.814
120	3.300	10.827	-3.300	-10.827	15.938	0.038	-1.910	0.238	6	5	6	5	6	114.551	0.642	0.642	0.000	0.000	1.275	6.107	7.788	3.540	4.514	23.829	0.248	15.296	-0.004	-0.004	23.922	1.533	24.922	2.266	5.000	0.000	31.783	0.054	0.000	0.000	0.000	0.000	0.000	1.947	19.471	19.471
121	3.350	10.991	-3.350	-10.991	5.819	0.020	-1.830	0.344	1	4	5	4	1	111.369	0.651	0.651	0.000	0.000	1.266	2.787	3.529	1.583	2.254	7.936	0.387	5.167	-0.010	-0.011	8.023	0.563	9.023	2.694	40.155	0.000	26.935	0.116	0.000	0.000	0.000	0.000	0.000	0.706	7.058	7.936
122	3.400	11.155	-3.400	-11.155	7.099	0.071	-1.830	1.000	1	4	5	4	4	111.369	0.661	0.661	0.000	0.000	1.257	3.400	4.275	2.026	2.905	9.750	1.103	6.438	-0.008	-0.009	9.837	0.686	10.837	2.784	45.061	0.000	27.852	0.026	0.000	0.000	0.000	0.000	0.000	0.855	8.550	9.750
123	3.450	11.319	-3.450	-11.319	6.532	0.102	-1.350	1.562	5	4	5	4	4	114.551	0.670	0.670	0.000	0.000	1.249	3.129	3.906	2.015	2.819	8.755	1.740	5.862	-0.006	-0.007	8.818	0.630	9.818	2.919	53.215	0.000	27.421	0.007	0.000	0.000	0.000	0.000	0.000	0.781	7.813	8.755
124	3.500	11.483	-3.500	-11.483	5.124	0.112	2.260	2.186	4	3	4	4	3	114.551	0.679	0.679	0.000	0.000	1.240	3.273	4.058	1.783	2.378	6.547	2.520	4.445	0.014	0.016	6.443	0.484	7.443	3.110	66.207	0.000	0.000	0.000	0.000	0.000	0.000	0.296	0.009	1.478	0.609	6.087	6.547
125	3.550	11.647	-3.550	-11.647	4.725	0.102	8.890	2.159	4	3	4	3	3	114.551	0.689	0.689	0.000	0.000	1.231	3.018	3.716	1.691	2.191	5.865	2.527	4.037	0.059	0.069	5.462	0.426	6.462	3.152	69.283	0.000	0.000	0.000	0.000	0.000	0.000	0.269	0.035	1.306	0.557	5.575	5.865
126	3.600	11.811	-3.600	-11.811	4.998	0.095	14.050	1.901	4	3	4	3	3	114.551	0.698	0.698	0.000	0.000	1.223	3.192	3.904	1.731	2.228	6.163	2.209	4.300	0.088	0.102	5.534	0.437	6.534	3.103	65.718	0.000	0.000	0.000	0.000	0.000	0.000	0.287	0.055	1.379	0.586	5.856	6.163
127	3.650	11.975	-3.650	-11.975	5.183	0.090	21.260	1.737	4	3	3	3	3	114.551	0.707	0.707	0.000	0.000	1.215	3.310	4.022	1.759	2.243	6.329	2.011	4.476	0.128	0.148	5.391	0.433	6.391	3.073	63.528	0.000	0.000	0.000	0.000	0.000	0.000	0.298	0.083	1.422	0.603	6.032	6.329
128	3.700	12.139	-3.700	-12.139	5.740	0.086	28.800	1.498	1	3	3	3	3	111.369	0.717	0.717	0.000	0.000	1.207	2.749	3.319	1.860	2.371	7.012	1.712	5.023	0.157	0.179	5.757	0.464	6.757	3.000	58.472	0.000	0.000	0.000	0.000	0.000	0.000	0.335	0.112	1.603	0.664	6.637	7.012
129	3.750	12.303	-3.750	-12.303	6.291	0.093	33.770	1.478	5	3	4	3	3	114.551	0.726	0.726	0.000	0.000	1.199	3.013	3.614	1.990	2.532	7.669	1.671	5.565	0.168	0.189	6.216	0.502	7.216	2.961	55.877	0.000	0.000	0.000	0.000	0.000	0.000	0.371	0.132	1.789	0.723	7.228	7.669
130	3.800	12.467	-3.800	-12.467	6.542	0.123	43.640	1.880	4	3	3	3	3	114.551	0.735	0.735	0.000	0.000	1.192	4.178	4.979	2.121	2.674	7.900	2.118	5.807	0.208	0.235	6.047	0.496	7.047	3.001	58.562	0.000	0.000	0.000	0.000	0.000	0.000	0.387	0.170	1.857	0.747	7.469	7.900
131	3.850	12.631	-3.850	-12.631	6.559	0.135	41.530	2.058	4	3	3	3	3	114.551	0.745	0.745	0.000	0.000	1.184	4.189	4.960	2.161	2.686	7.811	2.322	5.815	0.198	0.223	6.069	0.504	7.069	3.026	60.260	0.000	0.000	0.000	0.000	0.000	0.000	0.388	0.162	1.830	0.744	7.441	7.811
132	3.900	12.795	-3.900	-12.795	6.207	0.148	39.540	2.384	4	3	3	3	3	114.551	0.754	0.754	0.000	0.000	1.177	3.964	4.665	2.132	2.593	7.233	2.714	5.453	0.199	0.226	5.596	0.476	6.596	3.090	64.777	0.000	0.000	0.000	0.000	0.000	0.000	0.364	0.154	1.664	0.700	6.997	7.233
133	3.950	12.959	-3.950	-12.959	6.145	0.180	39.280	2.929	3	3	3	3	3	111.369	0.763	0.763	0.000	0.000	1.170	5.887	6.885	2.196	2.630	7.053	3.344	5.382	0.200	0.228	5.446	0.471	6.446	3.149	69.088	0.000	0.000	0.000	0.000	0.000	0.000	0.359	0.153	1.614	0.689	6.885	7.053
134	4.000	13.123	-4.000	-13.123	6.085	0.184	37.710	3.024	3	3	3	3	3	111.369	0.773	0.773	0.000	0.000	1.163	5.830	6.778	2.201	2.597	6.880	3.463	5.313	0.193	0.222	5.356	0.470	6.356	3.166	70.400	0.000	0.000	0.000	0.000	0.000	0.000	0.354	0.147	1.567	0.678	6.778	6.880
135	4.050	13.287	-4.050	-13.287	5.688	0.207	33.300	3.639	3	3	3	3	3	111.369	0.782	0.782	0.000	0.000	1.156	5.449	6.298	2.180	2.512	6.279	4.219	4.906	0.183	0.212	4.949	0.445	5.949	3.247	76.741	0.000	0.000	0.000	0.000	0.000	0.000	0.327	0.130	1.409	0.630	6.298	6.279
136	4.100	13.451	-4.100	-13.451	5.622	0.193	25.910	3.433	3	3	3	3	3	111.369	0.791	0.791	0.000	0.000	1.149	5.386	6.189	2.149	2.438	6.111	3.995	4.831	0.144	0.167	5.088	0.461	6.088	3.244	76.445	0.000	0.000	0.000	0.000	0.000	0.000	0.322	0.101	1.367	0.619	6.189	6.111
137	4.150	13.615	-4.150	-13.615	4.988	0.179	28.520	3.589	3	3	3	3	2	111.369	0.800	0.800	0.000	0.000	1.143	4.779	5.460	2.013	2.207	5.238	4.274	4.188	0.178	0.213	4.124	0.393	5.124	3.316	82.366	0.000	0.000	0.000	0.000	0.000	0.000	0.279	0.111	1.159	0.546	5.460	5.238
138	4.200	13.779	-4.200	-13.779	4.754	0.136	35.830	2.861	3	3	3	3	3	111.369	0.809	0.809	0.000	0.000	1.136	4.554	5.174	1.882	2.016	4.878	3.448	3.945	0.235	0.284	3.495	0.348	4.495	3.290	80.271	0.000	0.000	0.000	0.000	0.000	0.000	0.263	0.140	1.079	0.517	5.174	4.878
139	4.250	13.943	-4.250	-13.943	4.336	0.111	37.740	2.560	3	3	3	3	2	111.369	0.818	0.818	0.000	0.000	1.130	4.154	4.692	1.752	1.814	4.301	3.155	3.518	0.272	0.335	2.861	0.302	3.861	3.317	82.468	0.000	0.000	0.000	0.000	0.000	0.000	0.235	0.147	0.960	0.469	4.692	4.301
140	4.300	14.107	-4.300	-14.107	4.094	0.103	40.750	2.516	3	3	3	3	2	111.369	0.827	0.827	0.000	0.000	1.123	3.922	4.407	1.696	1.708	3.951	3.152	3.267	0.311	0.389	2.413	0.270	3.413	3.348	85.146	0.000	0.000	0.000	0.000	0.000	0.000	0.218	0.159	0.893	0.441	4.407	3.951
141	4.350	14.271	-4.350	-14.271	4.132	0.090	43.650	2.178	3	3	3	3	2	111.369	0.837	0.837	0.000	0.000	1.117	3.959	4.423	1.670	1.663	3.942	2.730	3.296	0.330	0.413	2.313	0.265	3.313	3.317	82.517	0.000	0.000	0.000	0.000	0.000	0.000	0.220	0.170	0.891	0.442	4.423	3.942
142	4.400	14.436	-4.400	-14.436	4.927	0.121	49.120	2.456	3	3	3	3	3	111.369	0.846	0.846	0.000	0.000	1.111	4.720	5.245	1.906	1.950	4.828	2.965	4.081	0.311	0.376	3.014	0.325	4.014	3.260	77.748	0.000	0.000	0.000	0.000	0.000	0.000	0.272	0.192	1.069	0.524	5.245	4.828
143	4.450	14.600	-4.450	-14.600	4.778	0.112	49.270	2.344	3	3	3	3	2	111.369	0.855	0.855	0.000	0.000	1.105	4.577	5.059	1.862	1.868	4.591	2.855	3.923	0.322	0.392	2.792	0.310	3.792	3.270	78.583	0.000	0.000	0.000	0.000	0.000	0.000	0.262	0.192	1.019	0.506	5.059	4.591
144	4.500	14.764	-4.500	-14.764	4.372	0.110	53.160	2.516	3	3	3	3	2	111.369	0.864	0.864	0.000	0.000	1.099	4.188	4.605	1.794	1.740	4.062	3.135	3.508	0.380	0.473	2.141	0.260	3.141	3.337	84.148	0.000	0.000	0.000	0.000	0.000	0.000	0.234	0.207	0.914	0.460	4.605	4.062
145	4.550	14.928	-4.550	-14.928	4.495	0.097	60.110	2.158	3	3	3	3	2	111.369	0.873	0.873	0.000	0.000	1.094	4.306	4.710	1.784	1.720	4.151	2.678	3.623	0.417	0.518	2.001	0.251	3.001	3.294	80.536	0.000	0.000	0.000	0.000	0.000	0.000	0.242	0.235	0.931	0.471	4.710	4.151
146	4.600	15.092	-4.600	-15.092	4.523	0.093	62.990	2.056	4	3	3	3	2	114.551	0.882	0.879	0.003	0.092	1.090	2.889	3.148	1.782	1.704	4.142	2.554	3.641	0.434	0.539	1.909	0.245	2.909	3.284	79.756	0.000	0.000	0.000	0.000	0.000	0.000	0.243	0.246	0.929	0.472	4.722	4.142
147	4.650	15.256	-4.650	-15.256	4.875	0.103	69.660	2.113	4	3	3	3	2	114.551	0.892	0.884	0.008	0.256	1.087	3.113	3.384	1.879	1.814	4.509	2.586	3.983	0.444	0.544	2.057	0.259	3.057	3.255	77.358	0.000	0.000	0.000	0.000	0.000	0.000	0.266	0.271	1.002	0.508	5.077	4.509
148	4.700	15.420	-4.700	-15.420	5.304	0.114	74.270	2.149	4	3	3	3	2	114.551	0.901	0.888	0.013	0.420	1.084	3.387	3.673	1.992	1.944	4.960	2.589	4.403	0.435	0.524	2.363	0.286	3.363	3.219	74.526	0.000	0.000	0.000	0.000	0.000	0.000	0.294	0.288	1.097	0.551	5.510	4.960
149	4.750	15.584	-4.750	-15.584	5.428	0.122	76.590	2.248	4	3	3	3	2	114.551	0.911	0.892	0.018	0.584	1.082	3.467	3.750	2.041	1.988	5.065	2.700	4.518	0.437	0.525	2.405	0.291	3.405	3.221	74.641	0.000	0.000	0.000	0.000	0.000	0.000	0.301	0.297	1.120	0.563	5.626	5.065
150	4.800	15.748	-4.800	-15.748	5.413	0.133	80.590	2.457	4	3	3	3	2	114.551	0.920	0.897	0.023	0.748	1.079	3.457	3.731	2.072	2.003	5.014	2.960	4.494	0.460	0.555	2.233	0.278	3.233	3.245	76.586	0.000	0.000	0.000	0.000	0.000	0.000	0.300	0.312	1.109	0.560	5.597	5.014
151	4.850	15.912	-4.850	-15.912	5.450	0.146	84.920	2.679	3	3	3	3	2	111.369	0.929	0.901	0.028	0.913	1.077	5.221	5.622	2.116	2.035	5.022	3.229	4.521	0.481	0.580	2.109	0.268	3.109	3.265	78.148	0.000	0.000	0.000	0.000	0.000	0.000	0.302	0.328	1.110	0.562	5.622	5.022
152	4.900	16.076	-4.900	-16.076	6.105	0.165	90.550	2.703	4	3	3	3	2	114.551	0.938	0.905	0.034	1.077	1.074	3.899	4.189	2.285	2.232	5.713	3.193	5.167	0.457	0.540	2.625	0.314	3.625	3.215	74.146	0.000	0.000	0.000	0.000	0.000	0.000	0.345	0.349	1.269	0.628	6.283	5.713
153	4.950	16.240	-4.950	-16.240	33.804	0.180	51.970	0.532	7	5	7	5	5	117.733	0.948	0.909	0.039	1.241	1.072	10.795	11.568	7.167	7.680	36.150	0.548	32.857	0.047	0.048	34.407	3.083	35.407	2.155	17.508	36.941	34.544	-0.039	3.548	119.991	0.000	0.000	0.000	3.471	34.705	34.705
154	5.000	16.404	-5.000	-16.404	40.788	0.166	4.520	0.407	8	6	8	6	6	120.915	0.958	0.914	0.044	1.405	1.069	9.769	10.442	8.231	8.799	43.599	0.417	39.831	0.002	0.002	43.492	3.894	44.492	2.031	5.000	42.251	35.429	-0.039	3.253	132.726	0.000	0.000	0.000	4.177	41.768	41.768
155	5.050	16.568	-5.050	-16.568	32.831	0.128	0.160	0.390	7	5	7	6	6	117.733	0.968	0.919	0.049	1.569	1.066	10.484	11.178	6.841	7.294	34.701	0.402	31.864	-0.001	-0.001	34.749	3.145	35.749	2.112	5.000	35.958	34.380	-0.016	3.605	118.414	0.000	0.000	0.000	3.353	33.534	33.534
156	5.100	16.732	-5.100	-16.732	27.498	0.114	-0.300	0.415	7	5	7	5	5	117.733	0.977	0.923	0.054	1.733	1.064	8.781	9.339	5.928	6.305	28.741	0.430	26.521	-0.002	-0.002	28.809	2.635	29.809	2.195	5.000	30.806	33.522	-0.005	0.000	0.000	0.000	0.000	0.000	2.802	28.018	28.018
157	5.150	16.896	-5.150	-16.896	22.334	0.102	-0.990	0.457	7	5	7	5	5	117.733	0.987	0.928	0.059	1.897	1.061	7.132	7.567	5.028	5.335	23.021	0.478	21.347	-0.004	-0.004	23.118	2.143	24.118	2.297	5.000	0.000	32.516	0.007	0.000	0.000	0.000	0.000	0.000	2.270	22.700	22.700
158	5.200	17.060	-5.200	-17.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
195	7.050	23.130	-7.050	-23.130	200.576	1.393	7.360	0.695	9	6	9	7	6	124.097	1.359	1.105	0.254	8.135	0.972	38.430	37.358	34.699	33.731	180.349	0.699	199.218	-0.000	-0.000	180.371	19.193	181.371	1.603	4.414	85.185	42.585	-0.209	1.949	391.078	0.000	0.000	0.000	18.679	186.790	186.790
196	7.100	23.294	-7.100	-23.294	215.808	1.522	12.430	0.705	9	6	9	7	6	124.097	1.369	1.110	0.259	8.299	0.970	41.349	40.103	37.105	35.988	193.244	0.710	214.439	0.001	0.001	193.128	20.637	194.128	1.585	4.113	87.217	42.924	-0.217	0.000	0.000	0.000	0.000	0.000	20.052	200.517	200.517
197	7.150	23.458	-7.150	-23.458	243.505	1.753	13.560	0.720	9	6	9	7	6	124.097	1.379	1.115	0.264	8.463	0.968	46.655	45.148	41.434	40.095	217.204	0.724	242.126	0.001	0.001	217.062	23.287	218.062	1.553	3.619	90.613	43.490	-0.229	0.000	0.000	0.000	0.000	0.000	22.574	225.738	225.738
198	7.200	23.622	-7.200	-23.622	242.976	1.781	10.510	0.733	9	6	9	7	6	124.097	1.389	1.120	0.269	8.627	0.965	46.554	44.948	41.437	40.007	215.742	0.737	241.587	0.000	0.000	215.689	23.246	216.689	1.560	3.724	90.486	43.468	-0.230	0.000	0.000	0.000	0.000	0.000	22.474	224.738	224.738
199	7.250	23.786	-7.250	-23.786	220.921	1.769	9.780	0.801	9	6	9	7	6	124.097	1.400	1.125	0.274	8.791	0.963	42.328	40.776	38.399	36.991	195.156	0.806	219.522	0.000	0.000	195.129	21.135	196.129	1.617	4.648	87.694	43.003	-0.230	0.000	0.000	0.000	0.000	0.000	20.388	203.879	203.879
200	7.300	23.950	-7.300	-23.950	196.138	1.963	9.220	1.001	9	6	9	7	6	124.097	1.410	1.130	0.279	8.955	0.961	37.580	36.120	35.346	33.973	172.340	1.008	194.728	0.000	0.000	172.332	18.762	173.332	1.723	6.557	84.219	42.424	-0.240	1.926	377.903	0.000	0.000	0.000	18.060	180.602	180.602
201	7.350	24.114	-7.350	-24.114	216.062	1.974	13.160	0.914	9	6	9	7	6	124.097	1.420	1.135	0.285	9.120	0.959	41.398	39.701	38.177	36.612	189.118	0.920	214.643	0.001	0.001	189.007	20.659	190.007	1.666	5.491	86.928	42.875	-0.239	2.049	442.849	0.000	0.000	0.000	19.850	198.504	198.504
202	7.400	24.278	-7.400	-24.278	267.081	2.173	14.650	0.814	9	6	10	7	6	124.097	1.430	1.140	0.290	9.284	0.957	51.173	48.967	45.637	43.669	233.023	0.818	265.652	0.001	0.001	232.876	25.543	233.876	1.566	3.816	92.941	43.878	-0.247	0.000	0.000	0.000	0.000	0.000	24.483	244.833	244.833
203	7.450	24.442	-7.450	-24.442	258.454	2.243	11.920	0.868	9	6	10	7	6	124.097	1.440	1.146	0.295	9.448	0.955	49.520	47.280	44.617	42.599	224.451	0.873	257.015	0.000	0.000	224.383	24.724	225.383	1.597	4.309	91.936	43.710	-0.250	0.000	0.000	0.000	0.000	0.000	23.640	236.401	236.401
204	7.500	24.606	-7.500	-24.606	241.740	2.131	6.440	0.882	9	6	9	7	6	124.097	1.451	1.151	0.300	9.612	0.953	46.317	44.125	42.092	40.100	208.923	0.887	240.290	-0.000	-0.000	209.009	23.139	210.009	1.623	4.736	89.957	43.380	-0.245	0.000	0.000	0.000	0.000	0.000	22.063	220.626	220.626
205	7.550	24.770	-7.550	-24.770	216.359	2.239	4.650	1.035	9	6	9	7	6	124.097	1.461	1.156	0.305	9.776	0.951	41.454	39.406	38.773	36.857	186.028	1.042	214.899	-0.001	-0.001	186.166	20.713	187.166	1.707	6.250	86.714	42.840	-0.250	2.034	440.232	0.000	0.000	0.000	19.703	197.029	197.029
206	7.600	24.934	-7.600	-24.934	169.121	2.162	1.710	1.278	8	6	9	6	5	120.915	1.471	1.161	0.310	9.940	0.949	40.504	38.421	31.867	30.228	144.511	1.290	167.650	-0.002	-0.002	144.732	16.197	145.732	1.849	9.190	79.593	41.653	-0.249	1.949	329.686	0.000	0.000	0.000	15.368	153.684	153.684
207	7.650	25.098	-7.650	-25.098	105.173	2.075	0.500	1.973	7	5	9	6	5	117.733	1.481	1.165	0.315	10.104	0.947	33.585	31.794	22.074	20.896	89.023	2.001	103.693	-0.003	-0.003	89.280	10.074	90.280	2.130	16.723	65.920	39.374	-0.252	2.258	237.605	0.000	0.000	0.000	9.538	95.381	95.381
208	7.700	25.262	-7.700	-25.262	59.415	1.718	8.810	2.892	6	4	8	6	4	114.551	1.490	1.170	0.320	10.269	0.945	22.768	21.513	14.173	13.392	49.543	2.966	57.925	-0.001	-0.001	49.582	5.666	50.582	2.427	27.512	49.497	36.637	-0.245	2.920	173.583	0.000	0.000	0.000	5.378	53.782	53.782
209	7.750	25.426	-7.750	-25.426	41.048	1.469	95.810	3.579	5	4	7	5	4	114.551	1.500	1.174	0.326	10.433	0.943	19.662	18.544	10.865	9.312	33.703	3.714	39.549	0.065	0.067	31.432	3.646	32.432	2.641	37.409	38.845	34.862	-0.230	3.510	144.121	0.000	0.000	0.000	3.709	37.089	33.703
210	7.800	25.590	-7.800	-25.590	173.348	1.689	118.240	0.974	9	6	9	6	6	124.097	1.509	1.179	0.331	10.597	0.941	33.214	31.263	31.647	29.789	145.857	0.983	171.839	0.019	0.020	143.005	16.253	144.005	1.760	7.293	80.080	41.734	-0.220	1.943	336.923	0.000	0.000	0.000	15.632	156.316	156.316
211	7.850	25.754	-7.850	-25.754	223.953	2.078	26.120	0.928	9	6	9	7	6	124.097	1.519	1.184	0.336	10.761	0.939	42.909	40.303	39.575	37.171	187.995	0.934	222.434	0.002	0.002	187.590	21.377	188.590	1.666	5.496	87.360	42.947	-0.240	0.000	0.000	0.000	0.000	0.000	20.152	201.517	201.517
212	7.900	25.918	-7.900	-25.918	209.790	1.954	6.480	0.931	9	6	9	7	6	124.097	1.530	1.189	0.341	10.925	0.937	40.196	37.674	37.352	35.009	175.267	0.938	208.261	-0.001	-0.001	175.384	20.079	176.384	1.688	5.895	85.426	42.625	-0.234	1.965	412.389	0.000	0.000	0.000	18.837	188.371	188.371
213	7.950	26.082	-7.950	-26.082	179.998	1.019	-5.050	0.566	9	6	9	6	6	124.097	1.540	1.194	0.346	11.089	0.935	34.488	32.256	31.066	29.056	149.550	0.571	178.459	-0.003	-0.003	149.972	17.259	150.972	1.596	4.298	80.975	41.883	-0.175	1.932	347.889	0.000	0.000	0.000	16.128	161.278	161.278
214	8.000	26.246	-8.000	-26.246	132.123	1.308	-6.000	0.990	8	6	9	6	5	120.915	1.550	1.199	0.351	11.253	0.933	31.643	29.534	24.960	23.297	108.971	1.002	130.573	-0.004	-0.004	109.421	12.675	110.421	1.856	9.352	72.053	40.396	-0.196	2.114	279.372	0.000	0.000	0.000	11.814	118.138	118.138
215	8.050	26.410	-8.050	-26.410	82.491	1.470	-3.090	1.782	7	5	9	6	5	117.733	1.560	1.203	0.356	11.417	0.932	26.342	24.539	17.681	16.471	67.280	1.816	80.932	-0.005	-0.006	67.657	7.912	68.657	2.181	18.370	58.496	38.137	-0.210	2.513	207.360	0.000	0.000	0.000	7.362	73.616	73.616
216	8.100	26.574	-8.100	-26.574	61.470	1.627	-1.580	2.647	6	5	8	6	4	114.551	1.569	1.208	0.361	11.582	0.930	23.555	21.903	14.450	13.436	49.616	2.716	59.902	-0.007	-0.007	49.956	5.894	50.956	2.395	26.189	50.012	36.723	-0.231	2.902	178.481	0.000	0.000	0.000	5.476	54.757	54.757
217	8.150	26.739	-8.150	-26.739	52.011	1.867	12.910	3.590	5	4	8	6	4	114.551	1.579	1.212	0.367	11.746	0.928	24.913	23.124	13.095	12.155	41.626	3.702	50.433	0.001	0.001	41.595	4.944	42.595	2.541	32.545	45.172	35.916	-0.269	3.163	164.551	0.000	0.000	0.000	4.625	46.249	46.249
218	8.200	26.903	-8.200	-26.903	45.880	2.336	81.690	5.092	3	3	7	5	3	111.369	1.588	1.216	0.372	11.910	0.927	43.953	40.728	12.672	10.504	36.433	5.274	44.293	0.047	0.049	34.641	4.151	35.641	2.723	41.684	0.000	0.000	0.000	0.000	0.000	2.954	0.272	10.000	4.073	40.728	36.433
219	8.250	27.067	-8.250	-27.067	51.271	2.827	93.030	5.514	3	3	7	6	3	111.369	1.597	1.220	0.377	12.074	0.925	49.117	45.438	14.088	11.681	40.725	5.691	49.674	0.049	0.051	38.654	4.634	39.654	2.713	41.160	0.000	0.000	0.000	0.000	0.000	3.313	0.316	10.000	4.544	45.438	40.725
220	8.300	27.231	-8.300	-27.231	63.961	3.189	117.120	4.986	11	4	7	6	3	130.461	1.607	1.225	0.382	12.238	0.923	61.275	56.574	16.690	13.870	50.921	5.114	62.355	0.051	0.053	48.248	5.777	49.248	2.613	36.005	50.948	36.879	-0.423	2.859	182.913	0.000	0.000	0.000	5.657	56.574	50.921
221	8.350	27.395	-8.350	-27.395	66.917	3.203	44.300	4.787	11	4	8	6	3	130.461	1.618	1.231	0.387	12.402	0.921	64.106	59.053	16.978	15.640	53.084	4.905	65.300	0.015	0.015	52.275	6.278	53.275	2.557	33.279	52.177	37.084	-0.413	2.799	187.359	0.000	0.000	0.000	5.905	59.053	59.053
222	8.400	27.559	-8.400	-27.559	78.575	3.021	26.360	3.845	5	4	8	6	4	114.551	1.628	1.236	0.392	12.566	0.919	37.637	34.601	18.848	17.327	62.304	3.926	76.948	0.005	0.006	61.955	7.449	62.955	2.439	28.015	56.724	37.841	-0.345	2.592	203.732	0.000	0.000	0.000	6.920	69.203	69.203
223	8.450	27.723	-8.450	-27.723	88.925	2.573	12.010	2.893	6	5	9	6	4	114.551	1.637	1.240	0.397	12.731	0.918	34.076	31.273	20.141	18.485	70.433	2.948	87.289	-0.000	-0.000	70.451	8.483	71.451	2.311	22.933	60.221	38.424	-0.288	2.455	218.367	0.000	0.000	0.000	7.818	78.184	78.184
224	8.500	27.887	-8.500	-27.887	109.665	2.267	2.350	2.067	7	5	9	6	5	117.733	1.647	1.244	0.402	12.895	0.916	35.020	32.082	23.130	21.190	86.851	2.099	108.019	-0.003	-0.003	87.116	10.499	88.116	2.142	17.103	66.179	39.417	-0.256	2.266	248.615	0.000	0.000	0.000	9.625	96.247	96.247
225	8.550	28.051	-8.550	-28.051	125.892	2.230	-2.830	1.771	8	5	9	6	5	120.915	1.656	1.249	0.408	13.059	0.914	30.151	27.571	25.615	23.423	99.518	1.795	124.237	-0.004	-0.004	99.915	12.069	100.915	2.052	14.396	70.081	40.068	-0.250	2.168	273.045	0.000	0.000	0.000	11.028	110.283	110.283
226	8.600	28.215	-8.600	-28.215	132.804	2.329	-4.100	1.754	8	5	9	6	5	120.915	1.666	1.254	0.413	13.223	0.913	31.807	29.029	26.823	24.481	104.645	1.776	131.139	-0.004	-0.004	105.076	12.735	106.076	2.033	13.862	71.558	40.314	-0.254	2.134	283.568	0.000	0.000	0.000	11.611	116.115	116.115
227	8.650	28.379	-8.650	-28.379	137.032	2.366	-4.500	1.727	8	5	9	6	5	120.915	1.676	1.258	0.418	13.387	0.911	32.819	29.896	27.529	25.077	107.598	1.748	135.356	-0.004	-0.004	108.042	13.141	109.042	2.019	13.477	72.401	40.454	-0.255	2.116	290.062	0.000	0.000	0.000	11.958	119.583	119.583
228	8.700	28.543	-8.700	-28.543	173.587	2.267	-3.620	1.306	8	6	9	6	5	120.915	1.686	1.263	0.423	13.551	0.909	41.574	37.799	32.851	29.868	136.130	1.319	171.902	-0.003	-0.003	136.555	16.640	137.555	1.860	9.462	79.125	41.575	-0.245	1.970	342.133	0.000	0.000	0.000	15.120	151.195	151.195
229	8.750	28.707	-8.750	-28.707	190.812	1.643	-6.040	0.861	9	6	9	6	6	124.097	1.696	1.268	0.428	13.715	0.907	36.560	33.175	34.168	31.005	149.181	0.869	189.117	-0.003	-0.003	149.667	18.298	150.667	1.705	6.207	81.781	42.018	-0.212	1.932	368.768	0.000	0.000	0.000	16.587	165.875	165.875
230	8.800	28.871	-8.800	-28.871	200.412	1.379	-6.150	0.688	9	6	9	6	6	124.097	1.706	1.273	0.433	13.880	0.906	38.399	34.775	34.919	31.623	156.122	0.694	198.706	-0.003	-0.003	156.613	19.218	157.613	1.624	4.769	83.131	42.243	-0.196	1.928	386.595	0.000	0.000	0.000	17.387	173.873	173.873
231	8.850	29.035	-8.850	-29.035	206.801	1.685	-6.300	0.815	9	6	9	6	6	124.097	1.717	1.278	0.438	14.044	0.904	39.623	35.812	36.516	33.004	160.496	0.822	205.085	-0.003	-0.003	160.993	19.830	161.993	1.664	5.456	83.973	42.383	-0.214	1.935	400.416	0.000	0.000	0.000	17.906	179.061	179.061
232	8.900	29.199	-8.900	-29.199	179.660	2.121	-4.770	1.181	9	6	9	6	5	124.097	1.727	1.283	0.443	14.208	0.902	34.423	31.051	33.517	30.234	138.700	1.192	177.934	-0.003	-0.003	139.161	17.226	140.161	1.821	8.576	79.884	41.701	-0.236	1.959	352.077	0.000	0.000	0.000	15.525	155.254	155.254
233	8.950	29.363	-8.950	-29.363	137.151	2.855	-3.120	2.082	7	5	9	6	5	117.733	1.737	1.288	0.448	14.372	0.900	43.797	39.433	28.241	25.427	105.162	2.108	135.415	-0.004	-0.004	105.586	13.148	106.586	2.082	15.276	72.092	40.403	-0.278	2.128	291.977	0.000	0.000	0.000	11.830	118.298	118.298
234	9.000	29.527	-9.000	-29.527	122.886	2.989	4.100	2.432	7	5	9	6	5	117.733	1.746	1.293	0.454	14.536	0.899	39.241	35.269	26.168	23.519	93.747	2.467	121.140	-0.003	-0.003	93.999	11.760	94.999	2.165	17.853	68.894	39.870	-0.290	2.205	271.028	0.000	0.000	0.000	10.581	105.808	105.808
235	9.050	29.691	-9.050	-29.691	132.597	3.450	76.390	2.602	7	5	9	6	5	117.733	1.756	1.297	0.459	14.700	0.897	42.343	37.990	28.240	25.337	100.900	2.637	130.842	0.015	0.015	99.415	12.474	100.415	2.166	17.864	71.023	40.225	-0.308	2.154	285.775	0.000	0.000	0.000	11.397	113.970	113.970
236	9.100	29.855	-9.100	-29.855	147.013	4.211	144.650	2.864	7	5	9	6	6	117.733	1.766	1.302	0.464	14.864	0.896	46.946	42.047	31.353	28.081	111.620	2.899	145.248	0.028	0.028	108.506	13.651	109.506	2.169	17.972	73.932	40.709	-0.339	2.088	307.135	0.000	0.000	0.000	12.614	126.140	126.140
237	9.150	30.019	-9.150	-30.019	123.104	4.981	79.200	4.046	11	9	9	6	8	130.461	1.776	1.307	0.469	15.029	0.894	117.934	105.422	0.000	0.000	92.878	4.105	121.329	0.016	0.017	91.344	11.557	92.344	2.336	0.000	68.789	39.852	-0.421	2.210	272.148	0.000	0.000	0.000	10.542	105.422	105.422
238	9.200	30.183	-9.200	-30.183	145.377	4.763	404.860	3.276	6	5	8	6	4	114.551	1.786	1.312	0.474	15.193	0.892	55.709	49.704	31.651	28.240	109.507	3.317	143.592	0.084	0.085	100.231	12.717	101.231	2.219	19.627	73.501	40.638	-0.362	2.100	305.378	0.000	0.000	0.000	12.426	124.261	124.261
239	9.250	30.347	-9.250	-30.347	161.629	4.423	102.350	2.737	7	5	9	6	4	117.733	1.795	1.316	0.479	15.357	0.891	51.614	45.974	33.911	30.205	121.485	2.767	159.834	0.017	0.017	119.421	15.178	120.421	2.129	16.696	76.491	41.136	-0.340	2.033	328.701	0.000	0.000	0.000	13.792	137.921	137.921
240	9.300	30.511	-9.300	-30.511	149.161	3.158	9.820	2.117	7	5	9	6	5	117.733	1.805	1.321	0.484	15.521	0.889	47.632	42.354	30.527	27.145	111.617	2.143	147.357	-0.001	-0.001	111.752	14.260	112.752	2.067	14.825	74.141	40.744	-0.287	2.087	311.371	0.000	0.000	0.000	12.706	127.063	127.063
241	9.350	30.675	-9.350	-30.675	152.736	2.510	2.540	1.643	8	5	9	6	5	120.915	1.815	1.325	0.489	15.685	0.888	36.580	32.470	30.211	26.816	113.915	1.663	150.922	-0.003	-0.003	114.224	14.624	115.224	1.979	12.386	74.769	40.849	-0.254	2.073	316.763	0.000	0.000	0.000	12.988	129.879	129.879
242	9.400	30.840	-9.400	-30.840	104.032	1.969	-6.070	1.893	7	5	9	6	5	117.733	1.825	1.330	0.495	15.849	0.886	33.221	29.436	21.940	19.440	76.875	1.926	102.208	-0.007	-0.007	77.390	9.984	78.390	2.142	17.097	63.711	39.006	-0.232	2.355	245.065	0.000	0.000	0.000	8.831	88.308	88.308
243	9.450	31.004	-9.450	-31.004	79.610	1.641	-3.220	2.061	7	5	8	6	5	117.733	1.834	1.335	0.500	16.013	0.885	25.422	22.487	17.588	15.558	58.300	2.110	77.776	-0.008	-0.008	58.750	7.636	59.750	2.253	20.831	55.993	37.720	-0.213	2.644	210.576	0.000	0.000	0.000	6.746	67.462	67.462
244	9.500	31.168	-9.500	-31.168	76.873	1.339	16.420	1.742	7	5	8	6	5	117.733	1.844	1.339	0.505	16.177	0.883	24.548	21.677	16.717	14.763	56.050	1.785	75.029	0.000	0.000	56.044	7.315	57.044	2.216	19.535	54.942	37.544	-0.188	2.692	207.009	0.000	0.000	0.000	6.503	65.032	65.032
245	9.550	31.332	-9.550	-31.332	114.269	1.582	78.270	1.384	8	5	9	6	5	120.915	1.854	1.344	0.510	16.342	0.882	27.367	24.125	22.959	20.239	83.688	1.407	112.416	0.017	0.017	82.249	10.713	83.249	2.020	13.487	66.254	39.430	-0.202	2.283	260.973	0.000	0.000	0.000	9.650	96.500	96.500
246	9.600	31.496	-9.600	-31.496	113.642	1.816	117.320	1.598	8	5	8	6	5	120.915	1.864	1.349	0.515	16.506	0.880	27.217	23.950	23.239	20.449	82.918	1.625	111.779	0.028	0.028	80.584	10.536	81.584	2.065	14.765	66.046	39.395	-0.216	2.290	260.304	0.000	0.000	0.000	9.580	95.800	95.800
247	9.650	31.660	-9.650	-31.660	102.304	2.935	58.320	2.869	6	5	9	6	4	114.551	1.873	1.353	0.520	16.670	0.878	39.203	34.439	22.861	20.083	74.251	2.922	100.431	0.013	0.013	73.289	9.626	74.289	2.280	21.784	62.985	38.885	-0.291	2.382	243.812	0.000	0.000	0.000	8.610	86.098	86.098
248	9.700	31.824	-9.700	-31.824	102.413	3.869	51.800	3.778	6	4	9	6	4	114.551	1.883	1.357	0.525	16.834	0.877	39.245	34.421	23.808	20.882	74.090	3.849	100.531	0.011	0.011	73.286	9.656	74.286	2.370	25.198	62.970	38.882	-0.363	2.384	244.207	0.000	0.000	0.000	8.605	86.054	86.054
249	9.750	31.988	-9.750	-31.988	99.123	4.095	34.160	4.131	5	4	9	6	4	114.551	1.892	1.362	0.530	16.998	0.876	47.480	41.579	23.458	20.543	71.434	4.212	97.232	0.005	0.006	71.040	9.394	72.040	2.409	26.792	61.989	38.719	-0.392	2.417	239.662	0.000	0.000	0.000	8.316	83.158	83.158
250	9.800	32.152	-9.800	-32.152	120.505	4.010	374.110	3.328	6	5	8	6	4	114.551	1.902	1.366	0.536	17.162	0.874	46.178	40.375	26.954	23.567	86.863	3.381	118.605	0.092	0.094	78.703	10.426	79.703	2.282	21.865	67.543	39.645	-0.334	2.252	271.545	0.000	0.000	0.000	10.094	100.938	100.938
251	9.850	32.316	-9.850	-32.316	146.067	4.535	10.660	3.105	6	5	9	6	4	114.551	1.911	1.370	0.541	17.326	0.873	55.973	48.863	31.624	27.607	105.247	3.146	144.156	-0.001	-0.001	105.398	13.961	106.398	2.205	19.174	73.012	40.556	-0.354	2.121	309.881	0.000	0.000	0.000	12.216	122.158	122.158
252	9.900	32.480	-9.900	-32.480	144.001	4.388	6.570	3.047	6	5	9	6	4	114.551	1.920	1.375	0.546	17.491	0.872	55.181	48.097	31.152	27.152	103.409	3.088	142.081	-0.002	-0.002	103.657	13.776	104.657	2.203	19.109	72.559	40.481	-0.348	2.132	307.114	0.000	0.000	0.000	12.024	120.243	120.243
253	9.950	32.644	-9.950	-32.644	163.740	3.671	11.170	2.242	7	5	9	6	5	117.733	1.930	1.379	0.551	17.655	0.870	52.288	45.502	33.489	29.143	117.392	2.269	161.811	-0.001	-0.001	117.538	15.653	118.538	2.065	14.777	76.195	41.087	-0.301	2.049	335.609	0.000	0.000	0.000	13.651	136.506	136.506
254	10.000	32.808	-10.000	-32.808	155.702	4.417	26.000	2.837	7	5	9	6	4	117.733	1.940	1.383	0.556	17.819	0.869	49.721	43.198	33.063	28.725	111.188	2.873	153.764	0.002	0.002	111.003	14.839	112.003	2.159	17.633	74.706	40.838	-0.339	2.084	324.568	0.000	0.000	0.000	12.959	129.593	129.593
255	10.050	32.972	-10.050	-32.972	288.000	4.657	62.420	1.617	8	6	10	7	8	120.915	1.949	1.388	0.561	17.983	0.867	68.976	59.825	53.326	46.252	206.151	1.628	286.051	0.005	0.005	205.151	27.404	206.151	1.800	8.122

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
102	2.400	7.874	-2.400	-7.874	8.429	0.016	-0.190	0.190	1	5	5	5	1	111.369	0.457	0.457	0.000	0.000	1.511	4.037	6.101	2.023	3.058	17.441	0.201	7.972	-0.001	-0.001	17.454	0.808	18.454	2.440	28.079	0.000	29.551	0.098	0.000	0.000	0.000	0.000	1.220	12.203	12.203
103	2.450	8.038	-2.450	-8.038	24.928	0.039	1.210	0.156	7	6	7	6	6	117.733	0.467	0.467	0.000	0.000	1.496	7.960	11.908	4.901	7.332	52.439	0.159	24.461	0.002	0.002	52.358	2.384	53.358	1.963	5.000	37.770	34.682	0.022	3.469	86.513	0.000	0.000	0.000	3.572	35.723	35.723
104	2.500	8.202	-2.500	-8.202	28.202	0.108	0.260	0.383	7	6	7	6	6	117.733	0.476	0.476	0.000	0.000	1.481	9.006	13.334	5.703	8.444	58.232	0.390	27.726	0.000	0.000	58.215	2.701	59.215	2.036	5.000	41.014	35.223	-0.059	3.289	92.794	0.000	0.000	0.000	4.000	40.003	40.003
105	2.550	8.366	-2.550	-8.366	40.191	0.322	0.180	0.801	7	6	8	6	6	117.733	0.486	0.486	0.000	0.000	1.466	12.834	18.814	8.191	12.007	81.736	0.811	39.705	0.000	0.000	81.724	3.850	82.724	2.056	14.515	50.881	36.868	-0.150	2.764	111.123	0.000	0.000	0.000	5.644	56.441	56.441
106	2.600	8.530	-2.600	-8.530	44.600	0.549	1.640	1.231	7	6	8	6	5	117.733	0.496	0.496	0.000	0.000	1.452	14.242	20.673	9.367	13.597	89.023	1.245	44.105	0.001	0.001	88.919	4.268	89.919	2.132	16.778	53.582	37.318	-0.197	2.635	117.555	0.000	0.000	0.000	6.202	62.019	62.019
107	2.650	8.694	-2.650	-8.694	58.546	0.864	7.360	1.476	7	6	8	6	5	117.733	0.505	0.505	0.000	0.000	1.438	18.696	26.877	12.112	17.411	114.912	1.489	58.041	0.004	0.004	114.457	5.587	115.457	2.094	15.626	61.104	38.571	-0.241	2.331	136.553	0.000	0.000	0.000	8.063	80.630	80.630
108	2.700	8.858	-2.700	-8.858	50.894	0.927	10.310	1.821	7	5	8	6	5	117.733	0.515	0.515	0.000	0.000	1.424	16.252	23.144	11.011	15.681	97.873	1.840	50.380	0.006	0.006	97.248	4.845	98.248	2.204	19.120	56.818	37.857	-0.250	2.493	126.943	0.000	0.000	0.000	6.943	69.432	69.432
109	2.750	9.022	-2.750	-9.022	51.615	0.846	5.630	1.639	7	5	8	6	5	117.733	0.525	0.525	0.000	0.000	1.411	16.482	23.255	11.020	15.547	97.427	1.656	51.091	0.003	0.003	97.092	4.928	98.092	2.172	18.056	56.955	37.880	-0.237	2.488	128.450	0.000	0.000	0.000	6.976	69.764	69.764
110	2.800	9.186	-2.800	-9.186	63.127	0.468	1.060	0.741	8	6	8	6	6	120.915	0.534	0.534	0.000	0.000	1.398	15.119	21.134	12.082	16.890	117.174	0.748	62.592	0.001	0.001	117.112	6.044	118.112	1.891	10.183	62.461	38.798	-0.176	2.287	144.407	0.000	0.000	0.000	8.454	84.537	84.537
111	2.850	9.350	-2.850	-9.350	92.252	0.855	0.380	0.927	8	6	9	6	6	120.915	0.544	0.544	0.000	0.000	1.385	22.094	30.603	17.227	23.860	168.550	0.932	91.708	0.000	0.000	168.528	8.837	169.528	1.824	8.632	73.071	40.566	-0.230	2.022	186.581	0.000	0.000	0.000	12.241	122.411	122.411
112	2.900	9.514	-2.900	-9.514	96.344	1.188	0.680	1.233	8	6	9	7	5	120.915	0.554	0.554	0.000	0.000	1.373	23.074	31.673	18.472	25.355	172.901	1.240	95.790	0.000	0.000	172.862	9.228	173.862	1.896	10.295	74.057	40.730	-0.262	2.002	192.937	0.000	0.000	0.000	12.669	126.691	126.691
113	2.950	9.678	-2.950	-9.678	63.672	1.229	0.260	1.930	7	5	8	6	5	117.733	0.564	0.564	0.000	0.000	1.361	20.332	27.666	13.552	18.440	111.932	1.947	63.108	0.000	0.000	111.918	6.099	112.918	2.164	17.817	61.934	38.710	-0.273	2.304	146.739	0.000	0.000	0.000	8.300	82.997	82.997
114	3.000	9.842	-3.000	-9.842	43.795	0.218	-0.800	0.498	8	6	8	6	6	120.915	0.574	0.574	0.000	0.000	1.349	10.489	14.150	8.566	11.556	75.352	0.504	43.221	-0.001	-0.001	75.396	4.198	76.396	1.949	11.619	50.961	36.881	-0.103	2.760	120.915	0.000	0.000	0.000	5.660	56.599	56.599
115	3.050	10.006	-3.050	-10.006	31.289	0.615	-0.180	1.966	6	5	7	6	5	114.551	0.583	0.583	0.000	0.000	1.338	11.990	16.040	7.402	9.902	52.646	2.003	30.706	-0.000	-0.000	52.656	2.998	53.656	2.408	26.756	41.083	35.235	-0.195	3.285	102.832	0.000	0.000	0.000	4.010	40.100	40.100
116	3.100	10.170	-3.100	-10.170	76.980	0.790	-0.030	1.026	8	6	8	6	6	120.915	0.593	0.593	0.000	0.000	1.327	18.437	24.463	14.930	19.810	128.836	1.034	76.387	-0.000	-0.000	128.837	7.375	129.837	1.927	11.052	66.653	39.496	-0.215	2.166	166.839	0.000	0.000	0.000	9.785	97.852	97.852
117	3.150	10.335	-3.150	-10.335	14.151	0.773	0.100	5.463	3	3	6	5	3	111.369	0.603	0.603	0.000	0.000	1.316	13.556	17.845	4.308	7.146	22.489	5.706	13.548	0.000	0.000	22.484	1.355	23.484	2.897	51.801	0.000	0.000	0.000	0.000	0.904	0.000	8.520	1.784	17.845	22.489
118	3.200	10.499	-3.200	-10.499	10.288	0.336	-0.360	3.266	4	3	6	5	3	114.551	0.612	0.612	0.000	0.000	1.306	6.570	8.583	3.089	4.958	15.819	3.472	9.676	-0.001	-0.001	15.837	0.987	16.837	2.873	50.355	0.000	0.000	0.000	0.000	0.000	0.645	0.000	4.935	1.287	12.875	15.819
119	3.250	10.663	-3.250	-10.663	8.699	0.392	-0.140	4.506	3	3	5	5	3	111.369	0.621	0.621	0.000	0.000	1.297	8.334	10.805	2.873	4.485	13.009	4.853	8.078	-0.001	-0.001	13.016	0.834	14.016	3.030	60.544	0.000	0.000	0.000	0.000	0.539	0.000	3.685	1.081	10.805	13.009
120	3.300	10.827	-3.300	-10.827	25.900	0.647	-0.040	2.498	6	4	7	6	4	114.551	0.630	0.630	0.000	0.000	1.287	9.925	12.773	6.558	8.440	40.096	2.560	25.270	-0.000	-0.000	40.098	2.481	41.098	2.553	33.089	34.555	34.147	-0.196	3.646	94.479	0.000	0.000	0.000	3.193	31.932	31.932
121	3.350	10.991	-3.350	-10.991	19.553	2.907	2.140	14.867	0	0	7	5	0	118.624	0.640	0.640	0.000	0.000	1.277	18.732	23.927	0.000	0.000	29.563	15.370	18.914	0.003	0.004	29.458	1.867	30.458	3.129	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.393	23.927	29.563
122	3.400	11.155	-3.400	-11.155	65.409	6.979	-0.190	10.670	0	0	8	6	0	118.624	0.650	0.645	0.005	0.154	1.272	62.662	79.734	0.000	0.000	100.449	10.777	64.759	-0.000	-0.000	100.466	6.267	101.466	2.689	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.973	79.734	100.449
123	3.450	11.319	-3.450	-11.319	183.500	8.016	-0.020	4.368	11	8	9	7	8	130.461	0.660	0.650	0.010	0.318	1.267	175.793	222.809	0.000	0.000	281.383	4.384	182.840	-0.000	-0.000	281.399	17.579	282.399	2.174	0.000	90.239	43.427	-0.636	0.000	0.000	0.000	0.000	22.281	222.809	222.809
124	3.500	11.483	-3.500	-11.483	108.445	5.910	-0.830	5.450	11	9	9	6	8	130.461	0.671	0.656	0.015	0.483	1.262	103.890	131.114	0.000	0.000	164.448	5.484	107.774	-0.000	-0.000	164.511	10.391	165.511	2.381	0.000	75.040	40.894	-0.739	1.982	215.053	0.000	0.000	0.000	13.111	131.114	131.114
125	3.550	11.647	-3.550	-11.647	85.999	2.496	-0.110	2.902	6	5	9	6	8	114.551	0.681	0.661	0.020	0.647	1.257	32.955	41.435	18.789	23.623	129.213	2.925	85.319	-0.000	-0.000	129.249	8.239	130.249	2.227	19.911	68.286	39.768	-0.363	2.126	182.918	0.000	0.000	0.000	10.359	103.588	103.588
126	3.600	11.811	-3.600	-11.811	46.279	1.586	-0.090	3.427	5	4	8	6	4	114.551	0.690	0.665	0.025	0.811	1.253	22.168	27.782	11.241	14.088	68.600	3.479	45.590	-0.001	-0.001	68.642	4.434	69.642	2.466	29.167	50.432	36.793	-0.323	2.786	128.987	0.000	0.000	0.000	5.556	55.565	55.565
127	3.650	11.975	-3.650	-11.975	7.377	1.536	1.180	20.820	0	0	5	4	0	118.624	0.700	0.669	0.030	0.975	1.249	7.068	8.828	0.000	0.000	9.982	23.001	6.678	0.001	0.001	9.972	0.703	10.972	3.574	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.883	8.828	9.982
128	3.700	12.139	-3.700	-12.139	15.131	1.119	30.520	7.396	3	3	5	5	3	111.369	0.709	0.674	0.036	1.139	1.245	14.495	18.048	4.917	7.265	21.419	7.759	14.422	0.061	0.064	20.057	1.358	21.057	3.005	58.794	0.000	0.000	0.000	0.000	0.000	0.962	0.115	7.889	1.805	18.048	21.419
129	3.750	12.303	-3.750	-12.303	6.951	0.216	46.630	3.107	3	3	4	3	3	111.369	0.718	0.678	0.041	1.303	1.241	6.659	8.267	2.344	3.239	9.202	3.465	6.233	0.204	0.227	7.114	0.526	8.114	3.062	62.775	0.000	0.000	0.000	0.000	0.000	0.416	0.177	2.265	0.827	8.267	9.202
130	3.800	12.467	-3.800	-12.467	6.127	0.154	44.300	2.514	4	3	3	3	3	114.551	0.728	0.682	0.046	1.467	1.238	3.913	4.843	2.074	2.800	7.923	2.852	5.399	0.218	0.248	5.961	0.454	6.961	3.069	63.233	0.000	0.000	0.000	0.000	0.000	0.360	0.167	1.864	0.726	7.264	7.923
131	3.850	12.631	-3.850	-12.631	5.663	0.153	53.380	2.702	3	3	3	3	3	111.369	0.737	0.686	0.051	1.632	1.234	5.425	6.694	1.990	2.635	7.186	3.106	4.927	0.285	0.328	4.830	0.383	5.830	3.124	67.263	0.000	0.000	0.000	0.000	0.000	0.329	0.202	1.651	0.669	6.694	7.186
132	3.900	12.795	-3.900	-12.795	6.072	0.135	48.310	2.223	4	3	3	3	3	114.551	0.746	0.690	0.056	1.796	1.230	3.878	4.770	2.031	2.697	7.721	2.535	5.326	0.239	0.273	5.616	0.437	6.616	3.051	61.952	0.000	0.000	0.000	0.000	0.000	0.355	0.182	1.804	0.716	7.155	7.721
133	3.950	12.959	-3.950	-12.959	6.931	0.170	45.060	2.453	4	3	4	3	3	114.551	0.755	0.694	0.061	1.960	1.226	4.427	5.429	2.272	3.044	8.899	2.753	6.176	0.194	0.218	6.960	0.529	7.960	3.018	59.707	0.000	0.000	0.000	0.000	0.000	0.000	0.412	0.168	2.166	0.814	8.143	8.899
134	4.000	13.123	-4.000	-13.123	6.922	0.188	33.970	2.716	4	3	4	3	3	114.551	0.765	0.699	0.066	2.124	1.223	4.421	5.405	2.310	3.071	8.818	3.053	6.157	0.144	0.161	7.394	0.562	8.394	3.046	61.659	0.000	0.000	0.000	0.000	0.000	0.000	0.411	0.124	2.140	0.811	8.108	8.818
135	4.050	13.287	-4.050	-13.287	6.848	0.176	25.360	2.570	4	3	4	4	3	114.551	0.774	0.703	0.071	2.288	1.219	4.374	5.331	2.277	3.001	8.646	2.897	6.074	0.105	0.119	7.621	0.580	8.621	3.041	61.273	0.000	0.000	0.000	0.000	0.000	0.405	0.090	2.086	0.800	7.997	8.646
136	4.100	13.451	-4.100	-13.451	8.519	0.196	39.830	2.301	5	3	4	4	3	114.551	0.784	0.707	0.077	2.452	1.215	4.080	4.959	2.634	3.532	10.943	2.534	7.735	0.137	0.151	9.292	0.697	10.292	2.923	53.465	0.000	0.000	0.000	0.000	0.000	0.000	0.516	0.146	2.874	0.992	9.917	10.943
137	4.150	13.615	-4.150	-13.615	10.155	0.227	40.870	2.235	5	4	4	4	4	114.551	0.793	0.711	0.082	2.616	1.212	4.864	5.893	3.002	4.062	13.165	2.425	9.362	0.118	0.128	11.486	0.851	12.486	2.846	48.700	0.000	29.385	-0.045	0.000	0.000	0.000	0.000	0.000	1.179	11.787	13.165
138	4.200	13.779	-4.200	-13.779	9.541	0.287	14.540	3.008	4	3	5	4	3	114.551	0.802	0.716	0.087	2.781	1.208	6.093	7.360	2.995	4.003	12.215	3.284	8.739	0.038	0.042	11.702	0.871	12.702	2.949	55.091	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.046	3.362	1.104	11.040	12.215
139	4.250	13.943	-4.250	-13.943	8.327	0.266	5.970	3.194	4	3	5	4	3	114.551	0.812	0.720	0.092	2.945	1.204	5.318	6.405	2.737	3.583	10.443	3.539	7.516	0.011	0.013	10.312	0.780	11.312	3.023	60.033	0.000	0.000	0.000	0.000	0.000	0.501	0.012	2.692	0.961	9.608	10.443
140	4.300	14.107	-4.300	-14.107	6.925	0.210	13.650	3.032	3	3	4	4	3	111.369	0.821	0.724	0.097	3.109	1.201	6.634	7.967	2.380	3.026	8.433	3.440	6.104	0.048	0.054	7.979	0.623	8.979	3.092	64.864	0.000	0.000	0.000	0.000	0.000	0.407	0.041	2.019	0.797	7.967	8.433
141	4.350	14.271	-4.350	-14.271	6.558	0.153	20.450	2.333	4	3	4	4	3	114.551	0.830	0.728	0.102	3.273	1.197	4.188	5.015	2.202	2.757	7.868	2.671	5.728	0.082	0.094	7.131	0.567	8.131	3.056	62.323	0.000	0.000	0.000	0.000	0.000	0.000	0.382	0.067	1.847	0.752	7.523	7.868
142	4.400	14.436	-4.400	-14.436	6.652	0.113	17.890	1.699	5	3	4	4	3	114.551	0.840	0.733	0.107	3.437	1.194	3.186	3.804	2.129	2.652	7.937	1.944	5.812	0.068	0.078	7.321	0.584	8.321	2.980	57.174	0.000	0.000	0.000	0.000	0.000	0.000	0.388	0.056	1.868	0.761	7.608	7.937
143	4.450	14.600	-4.450	-14.600	6.533	0.119	21.350	1.821	4	3	4	4	3	114.551	0.849	0.737	0.112	3.601	1.190	4.173	4.967	2.127	2.622	7.718	2.093	5.684	0.085	0.097	6.966	0.562	7.966	3.007	58.974	0.000	0.000	0.000	0.000	0.000	0.000	0.379	0.069	1.803	0.745	7.451	7.718
144	4.500	14.764	-4.500	-14.764	5.655	0.110	23.230	1.945	4	3	4	3	3	114.551	0.859	0.741	0.118	3.765	1.187	3.612	4.287	1.946	2.325	6.475	2.293	4.797	0.107	0.127	5.655	0.472	6.655	3.093	64.972	0.000	0.000	0.000	0.000	0.000	0.000	0.320	0.076	1.459	0.643	6.431	6.475
145	4.550	14.928	-4.550	-14.928	5.302	0.103	27.540	1.943	4	3	3	3	3	114.551	0.868	0.745	0.123	3.929	1.184	3.386	4.008	1.867	2.187	5.951	2.323	4.434	0.139	0.166	4.962	0.426	5.962	3.127	67.483	0.000	0.000	0.000	0.000	0.000	0.000	0.296	0.092	1.327	0.601	6.012	5.951
146	4.600	15.092	-4.600	-15.092	5.046	0.100	29.800	1.982	4	3	3	3	3	114.551	0.877	0.750	0.128	4.094	1.180	3.223	3.804	1.816	2.090	5.563	2.399	4.169	0.159	0.192	4.493	0.394	5.493	3.160	69.901	0.000	0.000	0.000	0.000	0.000	0.000	0.278	0.100	1.234	0.571	5.705	5.563
147	4.650	15.256	-4.650	-15.256	4.704	0.094	34.340	1.998	4	3	3	3	3	114.551	0.887	0.754	0.133	4.258	1.177	3.005	3.536	1.743	1.959	5.066	2.462	3.818	0.200	0.246	3.820	0.348	4.820	3.201	73.037	0.000	0.000	0.000	0.000	0.000	0.000	0.255	0.117	1.120	0.530	5.304	5.066
148	4.700	15.420	-4.700	-15.420	5.001	0.094	38.680	1.879	4	3	3	3	3	114.551	0.896	0.758	0.138	4.422	1.174	3.194	3.749	1.800	2.035	5.417	2.290	4.106	0.214	0.260	4.006	0.363	5.006	3.160	69.888	0.000	0.000	0.000	0.000	0.000	0.000	0.274	0.134	1.200	0.562	5.623	5.417
149	4.750	15.584	-4.750	-15.584	5.025	0.090	37.690	1.791	4	3	3	3	3	114.551	0.906	0.762	0.143	4.586	1.170	3.209	3.756	1.797	2.018	5.406	2.184	4.120	0.206	0.251	4.050	0.369	5.050	3.150	69.182	0.000	0.000	0.000	0.000	0.000	0.000	0.275	0.129	1.197	0.563	5.634	5.406
150	4.800	15.748	-4.800	-15.748	4.913	0.092	43.740	1.873	4	3	3	3	3	114.551	0.915	0.767	0.148	4.750	1.167	3.138	3.662	1.787	1.981	5.217	2.301	3.998	0.248	0.304	3.629	0.340	4.629	3.175	71.049	0.000	0.000	0.000	0.000	0.000	0.000	0.267	0.152	1.154	0.549	5.493	5.217
151	4.850	15.912	-4.850	-15.912	5.764	0.086	56.640	1.492	1	3	3	3	3	111.369	0.924	0.771	0.153	4.914	1.164	2.761	3.213	1.927	2.192	6.280	1.777	4.840	0.280	0.334	4.185	0.383	5.185	3.050	61.883	0.000	0.000	0.000	0.000	0.000	0.323	0.202	1.409	0.643	6.426	6.280
152	4.900	16.076	-4.900	-16.076	6.130	0.092	62.470	1.501	1	3	3	3	3	111.369	0.933	0.775	0.158	5.078	1.161	2.936	3.409	2.016	2.303	6.709	1.770	5.197	0.292	0.345	4.396	0.400	5.396	3.024	60.091	0.000	0.000	0.000	0.000	0.000	0.000	0.347	0.224	1.521	0.682	6.817	6.709
153	4.950	16.240	-4.950	-16.240	6.575	0.121	72.910	1.840	4	3	3	3	3	114.551	0.943	0.779	0.164	5.243	1.158	4.199	4.862	2.181	2.505	7.233	2.148	5.633	0.321	0.375	4.521	0.412	5.521	3.037	61.024	0.000	0.000	0.000	0.000	0.000	0.000	0.376	0.264	1.664	0.729	7.293	7.233
154	5.000	16.404	-5.000	-16.404	6.999	0.140	79.870	2.000	4	3	3	3	3	114.551	0.952	0.783	0.169	5.407	1.155	4.470	5.161	2.311	2.661	7.723	2.315	6.047	0.332	0.384	4.754	0.432	5.754	3.030	60.506	0.000	0.000	0.000	0.000	0.000	0.000	0.403	0.291	1.805	0.774	7.741	7.723
155	5.050	16.568	-5.050	-16.568	7.319	0.149	79.960	2.036	4	3	3	3	3	114.551	0.961	0.788	0.174	5.571	1.151	4.675	5.382	2.395	2.759	8.076	2.343	6.358	0.317	0.365	5.126	0.462	6.126	3.016	59.562	0.000	0.000	0.000	0.000	0.000	0.000	0.424	0.290	1.910	0.807	8.074	8.076
156	5.100	16.732	-5.100	-16.732	7.407	0.158	84.470	2.133	4	3	3	3	3	114.551	0.971	0.792	0.179	5.735	1.148	4.731	5.433	2.437	2.792	8.132	2.455	6.437	0.332	0.382	5.027	0.457	6.027	3.024	60.118	0.000	0.000	0.000	0.000	0.000	0.000	0.429	0.307	1.926	0.815	8.149	8.132
157	5.150	16.896	-5.150	-16.896	7.550	0.160	89.690	2.119	4	3	3	3	3	114.551	0.980	0.796	0.184	5.899	1.145	4.822	5.522	2.472	2.822	8.255	2.435	6.570	0.346	0.398	4.969	0.455	5.969	3.017	59.613	0.000	0.000	0.000	0.000	0.000	0.000	0.438	0.327	1.964	0.828	8.283	8.255
158	5.200	17.060	-5.200	-17.060	7.365	0.160	90.470	2.173	4	3	3	3	3	114.551	0.990	0.800	0.189	6.063	1.142	4.704	5.372	2.442	2.758	7.968	2.510	6.376	0.358	0.413	4.675	0.435	5.675	3.037	60.985	0.000	0.000	0.000	0.000	0.000	0.000	0.425	0.329	1.877	0.806	8.059	7.968
159	5.250	17.224	-5.250	-17.224	7.354	0.192	95.100	2.611	4	3	3	3	3	114.551	0.999	0.805	0.194	6.227	1.139	4.697	5.350	2.514	2.819	7.900	3.021	6.355	0.377	0.437	4.452	0.420	5.452	3.083	64.284	0.000	0.000	0.000	0.000	0.000	0.000	0.424	0.347	1.857	0.803	8.025	7.900
160	5.300	17.388	-5.300	-17.388	9.285	0.204	103.390	2.197	5	3	3	3	3	114.551	1.008	0.809	0.199	6.392	1.136	4.448	5.053	2.902	3.339	10.236	2.465	8.277	0.326	0.366	6.492	0.580	7.492	2.941	54.589	0.000	0.000	0.000	0.000	0.000	0.000	0.552	0.379	2.618	1.011	10.106	10.236
161	5.350	17.552	-5.350	-17.552	13.848	0.190	110.260	1.372	6	4	4	4	4	114.551	1.018	0.813	0.205	6.556	1.133	5.307	6.013	3.708	4.411	15.783	1.481	12.831	0.234	0.252	11.801	0.997	12.801	2.664	38.547	0.000	30.548	-0.012	0.000	0.000	0.000	0.000	1.503	15.033	15.783
162	5.400	17.716	-5.400	-17.716	13.630	0.170	83.250	1.247	6	4	4	4	4	114.551	1.027	0.818	0.210	6.720	1.130	5.223	5.903

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
203	7.450	24.442	-7.450	-24.442	162.178	2.465	14.110	1.520	8	6	9	6	5	120.915	1.434	1.015	0.420	13.450	1.015	38.842	39.406	31.095	31.547	158.503	1.533	160.744	0.000	0.000	158.483	15.494	159.483	1.896	10.297	80.319	41.774	-0.278	1.919	311.427	0.000	0.000	0.000	15.763	157.625	157.625
204	7.500	24.606	-7.500	-24.606	128.770	2.394	15.970	1.859	7	5	9	6	5	117.733	1.444	1.019	0.425	13.614	1.012	41.120	41.623	25.973	26.290	124.976	1.880	127.326	0.001	0.001	124.904	12.288	125.904	2.030	13.763	73.641	40.661	-0.280	2.049	263.919	0.000	0.000	0.000	12.487	124.868	124.868
205	7.550	24.770	-7.550	-24.770	109.836	2.582	28.250	2.351	7	5	9	6	5	117.733	1.454	1.024	0.430	13.778	1.010	35.074	35.424	23.269	23.501	105.911	2.382	108.383	0.004	0.004	105.470	10.438	106.470	2.153	17.448	69.019	39.891	-0.297	2.153	236.537	0.000	0.000	0.000	10.627	106.272	106.272
206	7.600	24.934	-7.600	-24.934	132.417	2.791	60.440	2.108	7	5	9	6	5	117.733	1.463	1.028	0.435	13.942	1.008	42.285	42.612	27.063	27.272	127.403	2.131	130.955	0.011	0.011	125.991	12.505	126.991	2.063	14.722	74.315	40.773	-0.299	2.036	269.691	0.000	0.000	0.000	12.784	127.837	127.837
207	7.650	25.098	-7.650	-25.098	149.260	3.271	68.820	2.191	7	5	9	6	5	117.733	1.473	1.033	0.440	14.106	1.006	47.664	47.927	30.256	30.424	143.148	2.213	147.787	0.011	0.012	141.493	14.093	142.493	2.042	14.124	77.683	41.335	-0.318	1.967	293.732	0.000	0.000	0.000	14.378	143.780	143.780
208	7.700	25.262	-7.700	-25.262	173.527	2.662	23.610	1.534	8	6	9	6	5	120.915	1.483	1.038	0.445	14.270	1.003	41.560	41.695	33.106	33.214	165.894	1.547	172.045	0.002	0.002	165.613	16.553	166.613	1.883	9.976	81.937	42.044	-0.283	1.906	330.873	0.000	0.000	0.000	16.678	166.781	166.781
209	7.750	25.426	-7.750	-25.426	177.058	1.780	20.470	1.005	9	6	9	6	6	124.097	1.493	1.042	0.450	14.434	1.001	33.924	33.954	32.139	32.168	168.488	1.014	175.566	0.001	0.001	168.307	16.901	169.307	1.744	6.964	82.446	42.128	-0.238	1.905	337.376	0.000	0.000	0.000	16.977	169.771	169.771
210	7.800	25.590	-7.800	-25.590	152.600	1.801	17.700	1.180	8	6	9	6	5	120.915	1.503	1.047	0.456	14.598	0.999	36.548	36.494	28.664	28.621	144.325	1.192	151.098	0.001	0.001	144.232	14.566	145.232	1.840	8.994	78.118	41.407	-0.240	1.961	299.330	0.000	0.000	0.000	14.598	145.975	145.975
211	7.850	25.754	-7.850	-25.754	87.675	1.585	13.590	1.808	7	5	9	6	5	117.733	1.513	1.052	0.461	14.763	0.996	27.997	27.894	18.511	18.443	81.935	1.840	86.163	-0.000	-0.000	81.970	8.359	82.970	2.144	17.184	62.169	38.749	-0.232	2.349	206.062	0.000	0.000	0.000	8.368	83.682	83.682
212	7.900	25.918	-7.900	-25.918	60.185	0.794	20.040	1.319	7	5	8	6	5	117.733	1.522	1.057	0.466	14.927	0.994	19.219	19.107	12.898	12.823	55.545	1.353	58.663	0.003	0.003	55.394	5.706	56.394	2.181	18.360	51.324	36.941	-0.159	2.802	168.734	0.000	0.000	0.000	5.732	57.321	57.321
213	7.950	26.082	-7.950	-26.082	43.015	0.843	37.620	1.960	6	5	7	6	5	114.551	1.532	1.061	0.471	15.091	0.992	16.483	16.353	10.164	10.084	39.116	2.032	41.484	0.016	0.017	38.452	4.008	39.452	2.406	26.654	41.637	35.327	-0.163	3.323	143.010	0.000	0.000	0.000	4.088	40.883	40.883
214	8.000	26.246	-8.000	-26.246	59.603	1.123	51.790	1.884	7	5	8	6	5	117.733	1.541	1.065	0.476	15.255	0.990	19.033	18.844	13.347	13.214	54.522	1.934	58.063	0.019	0.020	53.451	5.555	54.451	2.285	21.960	50.927	36.875	-0.193	2.824	168.400	0.000	0.000	0.000	5.653	56.531	56.531
215	8.050	26.410	-8.050	-26.410	69.634	1.363	11.840	1.957	7	5	8	6	5	117.733	1.551	1.070	0.481	15.419	0.988	22.236	21.968	15.331	15.146	63.660	2.002	68.083	-0.002	-0.002	63.765	6.636	64.765	2.245	20.544	55.324	37.608	-0.216	2.617	182.338	0.000	0.000	0.000	6.590	65.905	65.905
216	8.100	26.574	-8.100	-26.574	86.394	1.319	15.120	1.527	7	5	9	6	5	117.733	1.561	1.074	0.486	15.583	0.986	27.589	27.198	17.936	17.682	78.988	1.555	84.834	-0.000	-0.000	79.001	8.231	80.001	2.103	15.891	61.445	38.628	-0.209	2.378	205.538	0.000	0.000	0.000	8.160	81.595	81.595
217	8.150	26.739	-8.150	-26.739	81.895	1.212	3.940	1.480	7	5	9	6	5	117.733	1.570	1.079	0.491	15.747	0.984	26.152	25.727	17.065	16.788	74.475	1.509	80.325	-0.004	-0.005	74.816	7.834	75.816	2.112	16.174	59.852	38.363	-0.200	2.436	199.544	0.000	0.000	0.000	7.718	77.182	77.182
218	8.200	26.903	-8.200	-26.903	65.105	1.040	4.040	1.597	7	5	8	6	5	117.733	1.580	1.084	0.497	15.912	0.982	20.790	20.410	14.130	13.871	58.653	1.637	63.526	-0.006	-0.006	58.995	6.225	59.995	2.211	19.370	53.215	37.257	-0.184	2.717	176.949	0.000	0.000	0.000	6.123	61.230	61.230
219	8.250	27.067	-8.250	-27.067	48.412	1.122	5.070	2.318	6	5	8	6	4	114.551	1.590	1.088	0.502	16.076	0.980	18.551	18.175	11.500	11.267	43.056	2.396	46.823	-0.007	-0.007	43.371	4.623	44.371	2.417	27.127	44.665	35.832	-0.196	3.161	153.090	0.000	0.000	0.000	4.544	45.438	45.438
220	8.300	27.231	-8.300	-27.231	35.381	1.060	9.800	2.996	5	4	7	5	4	114.551	1.599	1.092	0.507	16.240	0.978	16.948	16.571	9.265	8.458	30.943	3.138	33.783	-0.006	-0.006	31.127	3.360	32.127	2.620	36.347	35.621	34.324	-0.196	3.670	129.909	0.000	0.000	0.000	3.314	33.143	30.943
221	8.350	27.395	-8.350	-27.395	32.526	1.340	15.350	4.120	4	4	7	5	3	114.551	1.608	1.096	0.512	16.404	0.976	20.773	20.272	9.083	8.223	28.209	4.334	30.918	-0.001	-0.001	28.239	3.070	29.239	2.744	42.809	33.153	33.913	-0.254	3.808	123.924	0.000	0.000	0.000	3.041	30.409	28.209
222	8.400	27.559	-8.400	-27.559	34.081	1.851	22.530	5.431	3	3	7	5	3	111.369	1.618	1.101	0.517	16.568	0.974	32.649	31.802	9.880	8.929	29.508	5.702	32.464	0.005	0.006	29.338	3.198	30.338	2.812	46.664	0.000	0.000	0.000	0.000	2.165	0.023	10.000	3.180	31.802	29.508
223	8.450	27.723	-8.450	-27.723	39.781	2.328	30.640	5.852	3	3	7	6	3	111.369	1.627	1.105	0.522	16.732	0.972	38.110	37.054	11.359	10.299	34.555	6.101	38.155	0.011	0.011	34.161	3.719	35.161	2.784	45.095	0.000	0.000	0.000	0.000	2.545	0.054	10.000	3.705	37.054	34.555
224	8.500	27.887	-8.500	-27.887	44.153	2.751	5.290	6.231	3	3	8	6	8	111.369	1.636	1.109	0.527	16.896	0.971	42.299	41.052	12.520	11.356	38.366	6.470	42.518	-0.008	-0.009	38.693	4.214	39.693	2.772	44.375	0.000	0.000	0.000	0.000	2.836	0.000	10.000	4.105	41.052	38.366
225	8.550	28.051	-8.550	-28.051	46.545	3.018	18.470	6.484	3	3	8	6	8	111.369	1.645	1.113	0.532	17.061	0.969	44.590	43.198	13.178	11.931	40.370	6.721	44.901	0.001	0.001	40.331	4.404	41.331	2.769	44.218	0.000	0.000	0.000	0.000	2.995	0.006	10.000	4.320	43.198	40.370
226	8.600	28.215	-8.600	-28.215	43.697	2.566	12.350	5.872	3	3	8	6	3	111.369	1.654	1.117	0.538	17.225	0.967	41.862	40.482	12.303	11.069	37.665	6.103	42.044	-0.003	-0.004	37.801	4.149	38.801	2.759	43.644	0.000	0.000	0.000	0.000	2.804	0.000	10.000	4.048	40.482	37.665
227	8.650	28.379	-8.650	-28.379	34.734	1.883	16.670	5.421	3	3	7	5	3	111.369	1.663	1.121	0.543	17.389	0.965	33.275	32.120	10.066	8.930	29.521	5.694	33.071	-0.001	-0.001	29.541	3.278	30.541	2.811	46.630	0.000	0.000	0.000	0.000	2.206	0.000	10.000	3.212	32.120	29.521
228	8.700	28.543	-8.700	-28.543	35.814	1.167	18.250	3.259	5	4	8	6	4	114.551	1.673	1.125	0.548	17.553	0.964	17.155	16.529	9.525	8.430	30.365	3.418	34.142	0.001	0.001	30.345	3.376	31.345	2.651	37.889	35.548	34.312	-0.208	3.683	131.957	0.000	0.000	0.000	3.306	33.058	30.365
229	8.750	28.707	-8.750	-28.707	40.180	1.484	54.510	3.693	5	4	7	5	3	114.551	1.682	1.129	0.553	17.717	0.962	19.246	18.509	10.674	9.459	34.110	3.855	38.499	0.029	0.030	33.092	3.686	34.092	2.648	37.770	38.791	34.853	-0.246	3.501	140.737	0.000	0.000	0.000	3.702	37.018	34.110
230	8.800	28.871	-8.800	-28.871	56.218	1.500	58.940	2.668	6	5	8	6	4	114.551	1.691	1.133	0.558	17.881	0.960	21.543	20.678	13.348	12.812	48.129	2.751	54.527	0.023	0.024	46.997	5.209	47.997	2.416	27.088	48.363	36.448	-0.226	2.971	167.116	0.000	0.000	0.000	5.170	51.696	51.696
231	8.850	29.035	-8.850	-29.035	101.401	1.547	33.870	1.526	8	5	9	6	5	120.915	1.701	1.138	0.563	18.045	0.958	24.286	23.265	20.698	19.828	87.651	1.552	99.701	0.005	0.005	87.216	9.613	88.216	2.060	14.631	65.213	39.256	-0.218	2.273	230.563	0.000	0.000	0.000	9.306	93.058	93.058
232	8.900	29.199	-8.900	-29.199	114.740	1.334	16.080	1.163	8	6	9	6	5	120.915	1.711	1.143	0.568	18.210	0.956	27.480	26.270	22.371	21.386	98.952	1.180	113.030	-0.001	-0.001	99.010	10.944	100.010	1.941	11.404	68.695	39.837	-0.202	2.182	250.482	0.000	0.000	0.000	10.508	105.078	105.078
233	8.950	29.363	-8.950	-29.363	108.237	1.682	18.740	1.554	8	5	9	6	5	120.915	1.721	1.148	0.573	18.374	0.954	25.923	24.729	21.973	20.961	92.860	1.579	106.517	0.000	0.000	92.849	10.313	93.849	2.046	14.230	66.963	39.548	-0.227	2.227	241.128	0.000	0.000	0.000	9.892	98.915	98.915
234	9.000	29.527	-9.000	-29.527	83.811	2.176	24.110	2.596	6	5	9	6	4	114.551	1.731	1.152	0.578	18.538	0.952	32.116	30.577	18.764	17.865	71.275	2.651	82.081	0.002	0.002	71.124	7.957	72.124	2.284	21.947	59.575	38.317	-0.269	2.461	206.320	0.000	0.000	0.000	7.644	76.441	76.441
235	9.050	29.691	-9.050	-29.691	113.820	2.122	35.320	1.864	7	5	9	6	5	117.733	1.740	1.156	0.584	18.702	0.950	36.347	34.538	23.486	22.318	96.955	1.893	112.081	0.005	0.005	96.506	10.798	97.506	2.087	15.433	68.293	39.770	-0.253	2.195	249.889	0.000	0.000	0.000	10.361	103.615	103.615
236	9.100	29.855	-9.100	-29.855	135.725	2.071	19.970	1.526	8	6	9	6	5	120.915	1.750	1.161	0.589	18.866	0.948	32.506	30.827	26.772	25.389	115.429	1.546	133.975	0.000	0.000	115.399	12.943	116.399	1.972	12.194	73.280	40.601	-0.246	2.080	282.406	0.000	0.000	0.000	12.331	123.306	123.306
237	9.150	30.019	-9.150	-30.019	150.306	2.283	13.720	1.519	8	6	9	6	5	120.915	1.760	1.166	0.594	19.030	0.946	35.998	34.068	29.292	27.721	127.456	1.537	148.547	-0.001	-0.001	127.598	14.358	128.598	1.940	11.372	76.146	41.078	-0.256	2.018	303.450	0.000	0.000	0.000	13.627	136.272	136.272
238	9.200	30.183	-9.200	-30.183	144.904	2.666	8.650	1.840	8	6	9	6	5	120.915	1.770	1.171	0.599	19.194	0.944	34.705	32.776	29.032	27.419	122.309	1.863	143.135	-0.002	-0.002	122.590	13.856	123.590	2.012	13.284	75.038	40.894	-0.276	2.043	296.132	0.000	0.000	0.000	13.111	131.105	131.105
239	9.250	30.347	-9.250	-30.347	138.967	2.784	5.940	2.003	7	5	9	6	5	117.733	1.780	1.175	0.604	19.358	0.943	44.377	41.828	28.284	26.659	116.762	2.029	137.188	-0.003	-0.003	117.118	13.295	118.118	2.053	14.417	73.782	40.684	-0.283	2.071	287.937	0.000	0.000	0.000	12.548	125.484	125.484
240	9.300	30.511	-9.300	-30.511	132.810	2.575	4.850	1.939	7	5	9	6	5	117.733	1.789	1.180	0.609	19.523	0.941	42.411	39.898	27.068	25.464	111.085	1.965	131.022	-0.003	-0.003	111.473	12.709	112.473	2.056	14.518	72.428	40.459	-0.274	2.102	279.281	0.000	0.000	0.000	11.969	119.694	119.694
241	9.350	30.675	-9.350	-30.675	126.889	2.366	3.050	1.865	7	5	9	6	5	117.733	1.799	1.184	0.614	19.687	0.939	40.520	38.046	25.880	24.300	105.650	1.891	125.091	-0.004	-0.004	106.089	12.147	107.089	2.058	14.572	71.066	40.232	-0.263	2.134	270.847	0.000	0.000	0.000	11.414	114.138	114.138
242	9.400	30.840	-9.400	-30.840	98.496	2.130	7.370	2.163	7	5	9	6	5	117.733	1.809	1.189	0.619	19.851	0.937	31.453	29.476	21.124	19.796	81.350	2.203	96.688	-0.004	-0.004	81.678	9.414	82.678	2.183	18.416	63.751	39.013	-0.256	2.326	229.193	0.000	0.000	0.000	8.843	88.429	88.429
243	9.450	31.004	-9.450	-31.004	64.124	1.835	-1.010	2.862	6	5	8	6	4	114.551	1.818	1.193	0.625	20.015	0.935	24.572	22.985	15.139	14.161	52.229	2.945	62.306	-0.010	-0.011	52.779	6.146	53.779	2.404	26.575	51.395	36.953	-0.252	2.829	181.492	0.000	0.000	0.000	5.746	57.463	57.463
244	9.500	31.168	-9.500	-31.168	52.975	1.606	13.630	3.032	6	4	8	6	4	114.551	1.827	1.198	0.630	20.179	0.934	20.300	18.955	12.976	12.116	42.723	3.140	51.148	-0.004	-0.004	42.893	5.034	43.893	2.483	29.948	45.869	36.032	-0.238	3.121	165.387	0.000	0.000	0.000	4.739	47.388	47.388
245	9.550	31.332	-9.550	-31.332	44.595	1.575	8.890	3.532	5	4	8	6	4	114.551	1.837	1.202	0.635	20.343	0.932	21.361	19.911	11.686	9.734	35.588	3.683	42.759	-0.008	-0.008	35.886	4.246	36.886	2.621	36.415	40.883	35.201	-0.247	3.401	151.731	0.000	0.000	0.000	3.982	39.821	35.588
246	9.600	31.496	-9.600	-31.496	41.500	1.478	23.970	3.561	5	4	8	6	4	114.551	1.846	1.206	0.640	20.507	0.930	19.878	18.495	11.034	9.128	32.887	3.727	39.654	0.003	0.003	32.797	3.904	33.797	2.650	37.858	38.770	34.849	-0.237	3.522	146.228	0.000	0.000	0.000	3.699	36.991	32.887
247	9.650	31.660	-9.650	-31.660	51.903	1.263	35.800	2.433	6	5	8	6	4	114.551	1.856	1.211	0.645	20.672	0.929	19.889	18.473	12.384	11.502	41.361	2.524	50.049	0.009	0.009	40.970	4.865	41.970	2.427	27.530	45.131	35.909	-0.197	3.164	164.311	0.000	0.000	0.000	4.618	46.183	46.183
248	9.700	31.824	-9.700	-31.824	61.972	1.558	14.800	2.514	6	5	8	6	4	114.551	1.865	1.215	0.650	20.836	0.927	23.748	22.018	14.466	13.412	49.499	2.592	60.108	-0.003	-0.003	49.654	5.893	50.654	2.379	25.559	50.163	36.748	-0.223	2.896	179.559	0.000	0.000	0.000	5.504	55.045	55.045
249	9.750	31.988	-9.750	-31.988	55.654	1.826	23.050	3.281	6	4	8	6	4	114.551	1.874	1.219	0.655	21.000	0.926	21.327	19.738	13.704	12.683	44.133	3.395	53.780	0.001	0.001	44.080	5.263	45.080	2.494	30.437	47.030	36.226	-0.257	3.062	170.508	0.000	0.000	0.000	4.935	49.346	49.346
250	9.800	32.152	-9.800	-32.152	61.250	1.837	36.820	2.999	6	4	8	6	4	114.551	1.884	1.223	0.660	21.164	0.924	23.471	21.685	14.681	13.564	48.547	3.094	59.367	0.008	0.008	48.147	5.758	49.147	2.437	27.950	49.726	36.675	-0.250	2.921	178.961	0.000	0.000	0.000	5.421	54.212	54.212
251	9.850	32.316	-9.850	-32.316	78.981	1.238	14.630	1.567	7	5	8	6	5	117.733	1.893	1.228	0.666	21.328	0.922	25.221	23.260	16.801	15.494	62.813	1.606	77.089	-0.003	-0.003	62.983	7.523	63.983	2.163	17.768	56.962	37.881	-0.189	2.580	203.865	0.000	0.000	0.000	6.978	69.781	69.781
252	9.900	32.480	-9.900	-32.480	75.161	0.728	11.440	0.969	8	5	8	6	5	120.915	1.903	1.232	0.671	21.492	0.920	18.001	16.570	15.277	14.063	59.466	0.994	73.259	-0.004	-0.004	59.721	7.166	60.721	2.049	14.320	55.487	37.635	-0.138	2.645	198.862	0.000	0.000	0.000	6.628	66.280	66.280
253	9.950	32.644	-9.950	-32.644	58.268	1.208	7.760	2.073	7	5	8	6	5	117.733	1.913	1.237	0.676	21.656	0.919	18.607	17.095	13.402	12.313	45.573	2.144	56.356	-0.007	-0.008	45.924	5.559	46.924	2.346	24.263	48.135	36.410	-0.188	3.007	175.300	0.000	0.000	0.000	5.129	51.286	51.286
254	10.000	32.808	-10.000	-32.808	38.965	1.497	19.970	3.842	5	4	8	5	3	114.551	1.922	1.242	0.681	21.821	0.917	18.664	17.117	10.660	8.524	29.849	4.041	37.043	-0.001	-0.002	29.895	3.673	30.895	2.705	40.715	36.550	34.479	-0.243	3.657	142.567	0.000	0.000	0.000	3.423	34.235	29.849
255	10.050	32.972	-10.050	-32.972	37.667	1.958	39.640	5.198	3	3	7	5	3	111.369	1.932	1.246	0.686	21.985	0.916	36.085	33.040	10.898	8.668	28.700	5.479	35.737	0.015	0.015	28.258	3.490	29.258	2.808	46.459	0.000	0.000	0.000	0.000	0.000	2.383	0.069	10.000	3.304	33.040	28.700
256	10.100	33.136	-10.100	-33.136	37.400	1.832	68.860	4.898	3	3	7	5	3	111.369	1.941	1.250	0.691	22.149	0.914	35.829	32.752	10.735	8.505	28.387	5.166	35.460	0.039	0.041	27.219	3.377	28.219	2.794	45.634	0.000	0.000	0.000	0.000	0.000	2.365	0.182	10.000	3.275	32.752	28.387
257	10.150	33.300	-10.150	-33.300	43.187	1.465	47.540	3.392	5	4	7	5	4	114.551	1.950	1.254	0.696	22.313	0.913	20.686	18.879	11.400	9.066	32.903	3.553	41.237	0.018	0.019	32.274	3.995	33.274	2.636	37.139	39.358	34.947	-0.224	3.501	151.252	0.000	0.000	0.000	3.776	37.758	32.903
258	10.200	33.464	-10.200	-33.464	55.753	0.735	21.270	1.318	7	5	8	6	5	117.733	1.960	1.258	0.701	22.477	0.911	17.804	16.219	12.246	11.156	42.771	1.366	53.794	-0.001	-0.001	42.801	5.278	43.801	2.240	20.351	46.628	36.159	-0.134	3.093	172.537	0.000	0.000	0.000	4.866	48.658	48.658
259	10.250	33.628	-10.250	-33.628	60.595	0.904	10.460	1.492	7	5	8	6	5	117.733	1.969	1.263	0.707	22.641	0.909	19.350	17.597	13.335	12.127	46.446	1.542	58.627	-0.006	-0.006	46.747	5.774	47.747	2.244	20.508	48.964	36.548	-0.154	2.969	179.999	0.000	0.000	0.000	5.279	52.790	52.790
260	10.300	33.792	-10.300	-33.792	52.540	1.343	6.340	2.556	6	4	8	6	4	114.551	1.979	1.267	0.712	22.805	0.908	20.133	18.277	12.643	11.477	39.917	2.656	50.562	-0.010	-0.010	40.323	5.014	41.323	2.445	28.304	44.825	35.858	-0.202	3.195	167.926	0.000	0.000	0.000	4.569	45.692	45.692
261	10.350	33.956	-10.350	-33.956	108.721	2.551	19.360	2.346	7	5	9	6	5	117.733	1.988	1.272	0.717	22.970	0.906	34.718	31.462	23.375	21.183	83.972	2.390	106.733	-0.001	-0.001	84.060	10.358	85.060	2.189	18.616	65.620	39.324	-0.272	2.287	248.735	0.000	0.000	0.000	9.439	94.387	94.387
262	10.400	34.120	-10.400	-34.120	113.018	3.628	30.040	3.210	6	5	9	6	4	114.551	1.998	1.276	0.722	23.134	0.905	43.308	39.179	25.248	22.841	87.043	3.268	111.020	0.002	0.002	86.873	10.737	87.873	2.279	21.761	66.681	39.501	-0.339	2.258	255.353	0.000	0.000	0.000	9.795	97.948	97.948
263	10.450	34.284	-10.450	-34.284	100.568	3.914	73.340	3.892	5	4	8	6	4	114.551	2.007	1.280	0.727	23.298	0.903	48.172	43.506	23.456	21.184	77.016	3.971	98.561	0.016	0.016	75.796	9.415	76.796	2.377	25.487	63.288	38.935	-0.379	2.358	237.261	0.000	0.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
304	12.500	41.010	-12.500	-41.010	422.454	5.747	27.840	1.360	9	6	10	7	8	124.097	2.422	1.485	0.937	30.027	0.839	80.942	67.883	74.236	62.258	283.023	1.368	420.033	-0.000	-0.000	283.068	40.388	284.068	1.650	5.204	0.000	45.438	-0.322	0.000	0.000	0.000	0.000	0.000	33.941	339.415	339.415
305	12.550	41.174	-12.550	-41.174	413.698	6.126	31.680	1.481	9	6	10	7	8	124.097	2.432	1.490	0.942	30.192	0.837	79.264	66.363	73.594	61.616	276.175	1.490	411.267	0.000	0.000	276.143	39.538	277.143	1.686	5.851	0.000	45.330	-0.330	0.000	0.000	0.000	0.000	0.000	33.182	331.815	331.815
306	12.600	41.338	-12.600	-41.338	398.052	6.175	32.400	1.551	9	6	10	7	8	124.097	2.442	1.495	0.947	30.356	0.836	76.267	63.745	71.464	59.731	264.763	1.561	395.611	0.000	0.000	264.719	38.037	265.719	1.712	6.350	0.000	45.138	-0.332	0.000	0.000	0.000	0.000	0.000	31.873	318.726	318.726
307	12.650	41.502	-12.650	-41.502	398.698	5.843	28.570	1.466	9	6	10	7	8	124.097	2.452	1.500	0.952	30.520	0.834	76.391	63.741	71.080	59.310	264.294	1.475	396.247	-0.000	-0.000	264.334	38.110	265.334	1.692	5.967	0.000	45.137	-0.324	0.000	0.000	0.000	0.000	0.000	31.870	318.704	318.704
308	12.700	41.666	-12.700	-41.666	404.307	1.267	34.710	0.313	10	7	10	7	6	127.279	2.463	1.505	0.958	30.684	0.833	64.554	53.772	61.655	51.357	267.103	0.315	401.845	0.000	0.000	267.019	38.629	268.019	1.200	0.000	0.000	45.196	-0.175	0.000	0.000	0.000	0.000	0.000	32.263	322.629	322.629
309	12.750	41.830	-12.750	-41.830	439.170	2.601	23.960	0.592	10	6	10	7	6	127.279	2.473	1.510	0.963	30.848	0.831	70.121	58.305	70.258	58.420	289.247	0.596	436.698	-0.000	-0.000	289.389	42.001	290.389	1.359	1.046	0.000	45.582	-0.237	0.000	0.000	0.000	0.000	0.000	34.983	349.831	349.831
310	12.800	41.994	-12.800	-41.994	414.394	4.570	43.970	1.103	9	6	10	7	8	124.097	2.483	1.516	0.968	31.012	0.830	79.398	65.906	71.219	59.117	271.896	1.109	411.912	0.001	0.001	271.629	39.568	272.629	1.583	4.092	0.000	45.297	-0.293	0.000	0.000	0.000	0.000	0.000	32.953	329.531	329.531
311	12.850	42.158	-12.850	-42.158	410.919	5.902	30.330	1.436	9	6	10	7	8	124.097	2.494	1.521	0.973	31.176	0.829	78.732	65.245	72.933	60.439	268.698	1.445	408.427	-0.000	-0.000	268.715	39.275	269.715	1.679	5.728	0.000	45.249	-0.323	0.000	0.000	0.000	0.000	0.000	32.622	326.223	326.223
312	12.900	42.322	-12.900	-42.322	408.444	5.755	31.030	1.409	9	6	10	7	8	124.097	2.504	1.526	0.978	31.341	0.827	78.258	64.744	72.372	59.875	266.177	1.418	405.941	-0.000	-0.000	266.183	39.036	267.183	1.674	5.639	0.000	45.212	-0.320	0.000	0.000	0.000	0.000	0.000	32.372	323.720	323.720
313	12.950	42.486	-12.950	-42.486	426.519	4.745	35.120	1.112	9	6	10	7	8	124.097	2.514	1.531	0.983	31.505	0.826	81.721	67.497	73.225	60.480	277.104	1.119	424.006	0.000	0.000	277.030	40.756	278.030	1.580	4.041	0.000	45.411	-0.296	0.000	0.000	0.000	0.000	0.000	33.749	337.487	337.487
314	13.000	42.650	-13.000	-42.650	467.917	1.316	41.150	0.281	10	7	10	7	7	127.279	2.524	1.536	0.988	31.669	0.825	74.711	61.603	69.803	57.556	303.124	0.283	465.394	0.001	0.001	302.931	44.703	303.931	1.125	0.000	0.000	45.845	-0.176	0.000	0.000	0.000	0.000	0.000	36.962	369.617	369.617
315	13.050	42.814	-13.050	-42.814	543.446	2.276	55.360	0.419	10	7	10	7	8	127.279	2.535	1.541	0.993	31.833	0.823	86.770	71.423	82.609	67.998	351.095	0.421	540.912	0.001	0.001	350.618	51.897	351.618	1.189	0.000	0.000	46.552	-0.223	0.000	0.000	0.000	0.000	0.000	42.854	428.537	428.537
316	13.100	42.978	-13.100	-42.978	541.157	4.724	58.760	0.873	10	6	10	7	8	127.279	2.545	1.547	0.999	31.997	0.822	86.405	71.000	88.645	72.840	348.400	0.877	538.613	0.002	0.002	347.860	51.667	348.860	1.435	1.960	0.000	46.523	-0.291	0.000	0.000	0.000	0.000	0.000	42.600	425.997	425.997
317	13.150	43.143	-13.150	-43.143	559.675	2.067	103.290	0.369	10	7	10	7	6	127.279	2.556	1.552	1.004	32.161	0.820	89.361	73.303	83.936	68.853	359.136	0.371	557.120	0.004	0.004	357.705	53.308	358.705	1.143	0.000	0.000	46.676	-0.214	0.000	0.000	0.000	0.000	0.000	43.982	439.819	439.819
318	13.200	43.307	-13.200	-43.307	591.341	0.010	86.600	0.002	10	0	10	7	0	127.279	2.566	1.557	1.009	32.325	0.819	94.417	77.318	0.000	0.000	378.246	0.002	588.776	0.003	0.003	377.157	56.391	378.157	1.746	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	46.391	463.909	463.909
319	13.250	43.471	-13.250	-43.471	709.042	0.010	74.070	0.001	10	0	10	7	0	127.279	2.576	1.563	1.014	32.490	0.818	113.210	92.550	0.000	0.000	452.308	0.001	706.467	0.002	0.002	451.477	67.705	452.477	1.783	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	55.530	555.298	555.298

ConeTec CPT Interpretations

Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011

DAS Version: W47

Interpretation Format:	All but Liquefaction Parameters (NLI)								
Run ID:	1347638897								
Job No:	12-972								
Client:	TerraTech								
Project:	Dump Road								
Facility:	Dump Road								
Sounding ID:	DR-CPT-14								
Cone ID:	167:T1500F15U500								
Operator:	TS-TW								
CPT Date:	Aug-27-2012								
CPT Time:	12:37								
CPT File:	972CP14.COR								
Tip Units:	tsf								
Sleeve Units:	tsf								
PP Units:	ft								
Tip Conversion to bar:	0.9580								
Sleeve Conversion to bar:	0.9580								
PP Conversion to meters:	0.3050								
Col 5 (Extra Module) Parameter	N/A								
Col 5 (Extra Module) Units	N/A								
Coord Source:									
Coord Type:									
UTM Zone:	N/A								
Easting / Long:	76.407540								
Northing / Lat:	39.324070								
Elevation:	0.000								
Tip Net Area Ratio:	0.80								
Unit Weight of Soil Base:	Based on Soil Zones								
Unit Weight of Soil (Def):	18.64	kN/m^3	118.62	pcf					
Unit Weight of Water:	9.81	kN/m^3	62.43	pcf					
Equilibrium U Profile Used:	No								
Soil Unit Weight Profile Used:	No								
Water Table	4.27	m	14.00	ft					
Averaging Interval:	0.00	m	0.00	ft					
Su Factors Nkt and Ndu:	15.0	8.0							
Cn Exp. and Limits:	0.50	0.00	1.70						
Qc1 Exp. and Limits:	0.50	0.00	1.70						
State Parameter M:	1.20								
NC Su / p':	0.30								
Relative Density Method:	All Sands - Jamilokowski (1985)								
Phi Angle Method:	Kulhawy and Mayne (1990)								
Youngs Modulus Sand Type:	Recent								
N160lc Method:	Based on qc1n								

Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (Ic)	N160 (Ic)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
m	ft	m	ft	tsf	tsf	ft	%						pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa			%	%	deg			tsf	tsf	tsf		MPa		
0.050	0.164	-0.050	-0.164	4.927	0.064	-0.410	1.299	1	6	4	7	8	111.369	0.009	0.009	0.000	0.000	1.700	2.360	4.012	1.496	2.542	538.484	1.301	4.918	-0.003	-0.003	539.885	0.473	540.885	2.892	51.488	47.672	27.549	-0.379	0.000	0.000	0.000	0.000	0.000	0.802	8.025	8.025
0.100	0.328	-0.100	-0.328	13.131	0.108	-1.420	0.822	6	7	6	7	8	114.551	0.018	0.018	0.000	0.000	1.700	5.032	8.554	3.127	5.315	712.738	0.824	13.113	-0.003	-0.003	715.147	1.262	716.147	2.423	27.342	65.731	32.231	-0.352	0.000	0.000	0.000	0.000	0.000	2.139	21.385	21.385
0.150	0.492	-0.150	-0.492	17.819	0.113	2.990	0.634	6	7	6	7	8	114.551	0.028	0.028	0.000	0.000	1.700	6.828	11.608	3.936	6.691	640.137	0.635	17.791	0.005	0.005	636.779	1.698	637.779	2.253	20.816	68.569	33.690	-0.315	0.000	0.000	0.000	0.000	0.000	2.902	29.019	29.019
0.200	0.656	-0.200	-0.656	15.294	0.088	-0.910	0.575	6	7	6	7	8	114.551	0.037	0.037	0.000	0.000	1.700	5.861	9.963	3.439	5.846	410.283	0.577	15.257	-0.002	-0.002	411.047	1.468	412.047	2.294	22.300	60.017	32.960	-0.266	0.000	0.000	0.000	0.000	0.000	2.491	24.908	24.908
0.250	0.820	-0.250	-0.820	17.923	0.109	0.530	0.608	6	6	6	7	8	114.551	0.047	0.047	0.000	0.000	1.700	6.868	11.676	3.942	6.701	383.774	0.610	17.877	0.001	0.001	383.419	1.715	384.419	2.243	20.455	61.335	33.718	-0.265	0.000	0.000	0.000	0.000	0.000	2.919	29.190	29.190
0.300	0.984	-0.300	-0.984	22.858	0.118	2.960	0.516	7	7	7	7	8	117.733	0.056	0.056	0.000	0.000	1.700	7.299	12.409	4.772	8.112	406.413	0.517	22.802	0.004	0.004	404.766	2.181	405.766	2.116	16.307	65.640	34.879	-0.255	3.404	77.831	0.000	0.000	0.000	3.723	37.227	37.227
0.350	1.148	-0.350	-1.148	30.232	0.811	3.510	2.683	6	8	7	7	8	114.551	0.066	0.066	0.000	0.000	1.700	11.585	19.694	0.000	0.000	459.631	2.688	30.166	0.004	0.004	457.962	2.886	458.962	2.425	0.000	71.406	36.215	-0.496	2.965	89.663	0.000	0.000	0.000	4.924	49.236	49.236
0.400	1.312	-0.400	-1.312	39.285	0.805	8.890	2.049	6	8	8	7	8	114.551	0.075	0.075	0.000	0.000	1.700	15.054	25.592	0.000	0.000	522.624	2.053	39.210	0.007	0.007	518.926	3.737	519.926	2.262	0.000	76.998	37.467	-0.448	2.594	101.954	0.000	0.000	0.000	6.398	63.980	63.980
0.450	1.476	-0.450	-1.476	28.213	0.449	6.950	1.591	6	6	7	7	8	114.551	0.084	0.084	0.000	0.000	1.700	10.811	18.379	6.361	10.815	333.200	1.596	28.129	0.008	0.008	330.630	2.682	331.630	2.301	22.546	65.818	35.885	-0.358	3.071	86.673	0.000	0.000	0.000	4.595	45.948	45.948
0.500	1.640	-0.500	-1.640	35.099	0.308	1.400	0.878	7	6	7	7	8	117.733	0.094	0.094	0.000	0.000	1.700	11.208	19.054	7.196	12.233	372.607	0.880	35.005	0.001	0.001	372.141	3.358	373.141	2.071	14.954	70.545	36.928	-0.298	2.746	96.415	0.000	0.000	0.000	5.716	57.162	57.162
0.550	1.804	-0.550	-1.804	36.065	0.235	-0.860	0.652	7	6	8	7	8	117.733	0.104	0.104	0.000	0.000	1.700	11.517	19.578	7.168	12.185	347.110	0.653	35.961	-0.001	-0.001	347.369	3.458	348.369	1.991	12.716	69.921	37.058	-0.262	2.708	97.706	0.000	0.000	0.000	5.873	58.735	58.735
0.600	1.968	-0.600	-1.968	44.077	0.244	1.140	0.554	8	7	8	7	8	120.915	0.113	0.113	0.000	0.000	1.700	10.556	17.946	8.402	14.283	387.731	0.555	43.964	0.001	0.001	387.417	4.219	388.417	1.880	9.918	74.378	38.016	-0.257	2.455	108.234	0.000	0.000	0.000	7.178	71.784	71.784
0.650	2.133	-0.650	-2.133	41.402	0.472	33.960	1.140	7	6	7	7	8	117.733	0.123	0.123	0.000	0.000	1.700	13.221	22.476	8.518	14.481	335.128	1.143	41.279	0.026	0.026	326.522	3.865	327.522	2.080	15.218	71.397	37.717	-0.314	2.528	104.724	0.000	0.000	0.000	6.743	67.427	67.427
0.700	2.297	-0.700	-2.297	38.373	0.430	0.550	1.121	7	6	8	7	8	117.733	0.133	0.133	0.000	0.000	1.700	12.254	20.832	7.964	13.539	287.894	1.124	38.241	0.000	0.000	287.765	3.675	288.765	2.102	15.868	68.138	37.354	-0.300	2.625	100.757	0.000	0.000	0.000	6.249	62.495	62.495
0.750	2.461	-0.750	-2.461	29.429	0.266	-0.110	0.904	7	6	7	7	8	117.733	0.143	0.143	0.000	0.000	1.700	9.398	15.976	6.208	10.554	205.544	0.908	29.287	-0.000	-0.000	205.568	2.820	206.568	2.142	17.121	59.526	36.087	-0.246	3.006	88.491	0.000	0.000	0.000	4.793	47.929	47.929
0.800	2.625	-0.800	-2.625	19.581	0.214	9.760	1.093	6	6	6	6	5	114.551	0.152	0.152	0.000	0.000	1.700	7.503	12.756	4.485	7.624	127.814	1.101	19.429	0.016	0.016	125.810	1.847	126.810	2.336	23.897	46.920	34.140	-0.219	3.648	71.470	0.000	0.000	0.000	3.189	31.890	31.890
0.850	2.789	-0.850	-2.789	18.497	0.199	2.800	1.076	6	6	6	6	5	114.551	0.161	0.161	0.000	0.000	1.700	7.088	12.050	4.270	7.258	113.604	1.085	18.336	0.005	0.005	113.062	1.764	114.062	2.354	24.571	44.429	33.868	-0.207	3.737	69.156	0.000	0.000	0.000	3.012	30.125	30.125
0.900	2.953	-0.900	-2.953	15.691	0.142	-1.400	0.905	6	6	6	6	5	114.551	0.171	0.171	0.000	0.000	1.700	6.013	10.222	3.659	6.221	90.870	0.915	15.520	-0.003	-0.003	91.126	1.507	92.126	2.377	25.479	38.902	33.082	-0.170	0.000	0.000	0.000	0.000	0.000	2.555	25.555	25.555
0.950	3.117	-0.950	-3.117	15.951	0.152	-1.400	0.953	6	6	6	6	5	114.551	0.180	0.180	0.000	0.000	1.700	6.113	10.391	3.729	6.339	87.523	0.964	15.771	-0.003	-0.003	87.766	1.532	88.766	2.382	25.686	38.606	33.161	-0.172	0.000	0.000	0.000	0.000	0.000	2.598	25.978	25.978
1.000	3.281	-1.000	-3.281	19.524	0.257	0.610	1.316	6	6	7	6	5	114.551	0.190	0.190	0.000	0.000	1.700	7.482	12.719	4.565	7.760	101.980	1.329	19.334	0.001	0.001	101.880	1.869	102.880	2.383	25.707	43.670	34.126	-0.217	3.653	71.351	0.000	0.000	0.000	3.180	31.796	31.796
1.050	3.445	-1.050	-3.445	24.901	0.224	8.170	0.900	7	6	7	6	6	117.733	0.199	0.199	0.000	0.000	1.700	7.952	13.518	5.386	9.156	124.060	0.907	24.702	0.010	0.010	122.779	2.361	123.779	2.203	19.097	49.940	35.288	-0.198	3.267	81.393	0.000	0.000	0.000	4.055	40.554	40.554
1.100	3.609	-1.100	-3.609	20.540	0.212	1.560	1.032	6	6	7	6	5	114.551	0.209	0.209	0.000	0.000	1.700	7.871	13.380	4.642	7.892	97.447	1.043	20.331	0.002	0.002	97.213	1.963	98.213	2.306	22.750	43.752	34.369	-0.189	3.573	73.425	0.000	0.000	0.000	3.345	33.451	33.451
1.150	3.773	-1.150	-3.773	18.040	0.180	-1.550	0.998	6	6	6	6	5	114.551	0.218	0.218	0.000	0.000	1.700	6.913	11.752	4.151	7.056	81.741	1.010	17.822	-0.003	-0.003	81.963	1.733	82.963	2.347	24.289	39.401	33.749	-0.169	0.000	0.000	0.000	0.000	0.000	2.938	29.380	29.380
1.200	3.937	-1.200	-3.937	15.935	0.142	-5.640	0.891	6	6	6	6	5	114.551	0.228	0.228	0.000	0.000	1.700	6.106	10.381	3.702	6.294	69.066	0.904	15.707	-0.011	-0.011	69.840	1.543	70.840	2.369	25.146	35.240	33.156	-0.145	0.000	0.000	0.000	0.000	0.000	2.595	25.951	25.951
1.250	4.101	-1.250	-4.101	12.302	0.100	0.330	0.813	6	5	6	6	5	114.551	0.237	0.237	0.000	0.000	1.700	4.714	8.014	2.965	5.041	50.947	0.829	12.065	0.001	0.001	50.903	1.178	51.903	2.449	28.452	0.000	31.920	-0.108	0.000	0.000	0.000	0.000	0.000	2.004	20.035	20.035
1.300	4.265	-1.300	-4.265	13.564	0.122	0.590	0.899	6	5	6	6	5	114.551	0.246	0.246	0.000	0.000	1.700	5.198	8.836	3.244	5.515	54.089	0.916	13.317	0.001	0.001	54.014	1.298	55.014	2.432	27.748	0.000	32.386	-0.122	0.000	0.000	0.000	0.000	0.000	2.209	22.090	22.090
1.350	4.429	-1.350	-4.429	11.913	0.136	-1.140	1.142	6	5	6	6	5	114.551	0.256	0.256	0.000	0.000	1.700	4.565	7.761	2.989	5.081	45.606	1.167	11.657	-0.003	-0.003	45.745	1.145	46.745	2.533	32.198	0.000	31.766	-0.127	0.000	0.000	0.000	0.000	0.000	1.940	19.401	19.401
1.400	4.593	-1.400	-4.593	10.764	0.137	2.260	1.273	5	5	6	6	5	114.551	0.265	0.265	0.000	0.000	1.700	5.156	8.765	2.785	4.734	39.618	1.305	10.499	0.007	0.007	39.352	1.024	40.352	2.596	35.167	0.000	31.282	-0.122	0.000	0.000	0.000	0.000	0.000	1.753	17.530	17.530
1.450	4.757	-1.450	-4.757	12.761	0.115	6.600	0.901	6	5	6	6	5	114.551	0.275	0.275	0.000	0.000	1.700	4.890	8.313	3.087	5.247	45.506	0.921	12.487	0.016	0.016	44.755	1.203	45.755	2.457	28.780	0.000	32.095	-0.104	0.000	0.000	0.000	0.000	0.000	2.078	20.783	20.783
1.500	4.921	-1.500	-4.921	10.901	0.091	3.370	0.835	6	5	6	6	5	114.551	0.284	0.284	0.000	0.000	1.700	4.177	7.101	2.694	4.580	37.412	0.857	10.617	0.010	0.010	37.041	1.034	38.041	2.502	30.782	0.000	31.342	-0.081	0.000	0.000	0.000	0.000	0.000	1.775	17.753	17.753
1.550	5.085	-1.550	-5.085	9.657	0.067	-0.450	0.694	6	5	6	6	5	114.551	0.293	0.293	0.000	0.000	1.700	3.701	6.291	2.401	4.081	31.938	0.716	9.364	-0.001	-0.002	31.986	0.927	32.986	2.515	31.337	0.000	30.763	-0.053	0.000	0.000	0.000	0.000	0.000	1.573	15.728	15.728
1.600	5.249	-1.600	-5.249	9.822	0.091	-2.820	0.926	5	5	6	6	5	114.551	0.303	0.303	0.000	0.000	1.700	4.705	7.998	2.502	4.253	31.462	0.956	9.520	-0.009	-0.009	31.753	0.949	32.753	2.564	33.641	0.000	30.844	-0.075	0.000	0.000	0.000	0.000	0.000	1.600	15.997	15.997
1.650	5.413	-1.650	-5.413	10.945	0.129	0.800	1.179	5	5	6	6	5	114.551	0.312	0.312	0.000	0.000	1.700	5.243	8.913	2.800	4.761	34.083	1.213	10.633	0.002	0.002	34.003	1.046	35.003	2.574	34.089	0.000	31.361	-0.101	0.000	0.000	0.000	0.000	0.000	1.783	17.825	17.825
1.700	5.577	-1.700	-5.577	12.398	0.136	1.220	1.097	6	5	6	6	5	114.551	0.322	0.322	0.000	0.000	1.700	4.751	8.076	3.076	5.230	37.577	1.126	12.076	0.003	0.003	37.459	1.184	38.459	2.511	31.163	0.000	31.957	-0.104	0.000	0.000	0.000	0.000	0.000	2.019	20.191	20.191
1.750	5.741	-1.750	-5.741	12.844	0.066	0.690	0.514	6	5	6	6	5	114.551	0.331	0.331	0.000	0.000	1.700	4.922	8.367	2.956	5.024	37.832	0.527	12.514	0.002	0.002	37.767	1.228	38.767	2.347	24.299	0.000	32.126	-0.045	0.000	0.000	0.000	0.000	0.000	2.092	20.918	20.918
1.800	5.905	-1.800	-5.905	13.004	0.115	0.670	0.884	6	5	6	6	5	114.551	0.340	0.340	0.000	0.000	1.700	4.983	8.471	3.131	5.322	37.229	0.908	12.664	0.002	0.002	37.168	1.244	38.168	2.446	28.347	0.000	32.185	-0.086	0.000	0.000	0.000	0.000	0.000	2.118	21.179	21.179
1.850	6.069	-1.850	-6.069	16.340	0.240	-0.010	1.469	6	5	6	6	5	114.551	0.350	0.350	0.000	0.000	1.700	6.261	10.644	3.989	6.781	45.745	1.501	15.990	-0.000	-0.000	45.746	1.565	46.746	2.476	29.630	0.000	33.276	-0.150	0.000	0.000	0.000	0.000	0.000	2.661	26.611	26.611
1.900	6.234	-1.900	-6.234	17.957	0.256	2.650	1.426	6	5	6	6	5	114.551	0.359	0.359	0.000	0.000	1.700	6.881	11.698	4.299	7.309	49.025	1.455	17.598	0.005	0.005	48.795	1.712	49.795	2.435	27.851	32.123	33.726	-0.153	0.000	0.000	0.000	0.000	0.000	2.924	29.244	29.244
1.950	6.398	-1.950	-6.398	15.426	0.253	-2.260	1.640	6	5	6	6	5	114.551	0.368	0.368	0.000	0.000	1.683	5.911	9.951	3.860	6.498	40.879	1.680	15.058	-0.005	-0.005	41.070	1.485	42.070	2.528	31.956	0.000	32.954	-0.150	0.000	0.000	0.000	0.000	0.000	2.488	24.877	24.877
2.000	6.562	-2.000	-6.562	20.736	0.387	2.250	1.866	6	5	7	6	5	114.551	0.378	0.378	0.000	0.000	1.662	7.946	13.209	5.025	8.353	53.895	1.901	20.358	-0.003	-0.003	54.081	1.993	55.081	2.460	28.949	35.517	34.307	-0.192	3.594	74.548	0.000	0.000	0.000	3.302	33.023	33.023
2.050	6.726	-2.050	-6.726	34.746	0.455	7.340	1.310	7	6	7	6	5	117.733	0.387	0.387	0.000	0.000	1.642	11.095	18.216	7.479	12.279	88.721	1.324	34.359	0.007	0.007	88.129	3.307	89.129	2.191	18.707	49.956	36.713	-0.203	2.810	97.672	0.000	0.000	0.000	5.465	54.649	54.649
2.100	6.890	-2.100	-6.890	37.804	0.566	-2.540	1.497	7	5	8	6	5	117.733	0.397	0.397	0.000	0.000	1.622	12.072	19.577	8.177	13.260	94.244	1.513	37.407	-0.002	-0.002	94.443	3.629	95.443	2.203	19.097	52.021	37.058	-0.224	2.708	102.422	0.000	0.000	0.000	5.873	58.731	58.731
2.150	7.054	-2.150	-7.054	32.156	0.552	5.740	1.717	6	5	7	6	5	114.551	0.407	0.407	0.000	0.000	1.603	12.322	19.747	7.247	11.614	78.115	1.739	31.749	0.006	0.006	77.674	3.063	78.674	2.300	22.508	47.042	36.228	-0.220	2.961	95.238	0.000	0.000	0.000	4.937	49.368	49.368
2.200	7.218	-2.200	-7.218	21.304	0.385	-0.990	1.807	6	5	7	6	5	114.551	0.416	0.416	0.000	0.000	1.584	8.164	12.934	5.160	8.176	50.231	1.843	20.888	-0.001	-0.001	50.305	2.044	51.305	2.460	28.911	34.914	34.206	-0.181	3.627	77.295	0.000	0.000	0.000	3.234	32.335	32.335
2.250	7.382	-2.250	-7.382	18.665	0.245	-0.770	1.313	6	5	6	6	5	114.551	0.425	0.425	0.000	0.000	1.567	7.153	11.206	4.461	6.989	42.894	1.343	18.240	-0.001	-0.001	42.950	1.790	43.950	2.431	27.682	30.804	33.521	-0.133	0.000	0.000	0.000	0.000	0.000	2.802	28.016	28.016
2.300	7.546	-2.300	-7.546	14.292	0.140	0.330	0.980	6	5	6	6	5	114.551	0.435	0.435	0.000	0.000	1.550	5.477	8.487	3.476	5.387	31.883	1.010	13.857	0.001	0.001	31.860	1.368	32.860	2.468	29.290	0.000	32.194	-0.080	0.000	0.000	0.000	0.000	0.000	2.122	21.219	21.219
2.350	7.710	-2.350	-7.710	11.091	0.259	-1.380	2.335	5	4	6	5	4	114.551	0.444	0.444	0.000	0.000	1.533	5.313	8.146	2.928	6.607	23.979	2.433	10.647	-0.004	-0.004	24.076	1.067	25.076	2.636	37.140	0.000	30.932	-0.130	0.000	0.000	0.000	0.000	0.000	1.629	16.292	23.979
2.400	7.874	-2.400	-7.874	19.923	0.290	-1.190	1.456	6	5	7	6	5	114.551	0.454	0.454	0.000	0.000	1.517	7.634	11.583	4.791	7.269	42.939	1.490	19.469	-0.002	-0.002	43.021	1.912	44.021	2.444	28.246	31.753	33.680	-0.143	0.000	0.000	0.000	0.000	0.000	2.896	28.959	28.959
2.450	8.038	-2.450	-8.038	24.737	0.435	7.460	1.759	6	5	7	6	5	114.551	0.463	0.463	0.000	0.000	1.502	9.479	14.236	5.880	8.831	52.448	1.792	24.274	0.009	0.010	51.945	2.347	52.945	2.419	27.197	37.662	34.665	-0.181	3.475	85.998	0.000	0.000	0.000	3.559	35.589	35.589
2.500	8.202	-2.500	-8.202	32.572	0.504	5.100	1.547	6	5	7	6	5	114.551	0.472	0.472	0.000	0.000	1.487	12.482	18.557	7.320	10.883	67.978	1.570	32.100	0.005	0.005	67.641	3.105	68.641	2.293	22.261	45.262	35.931	-0.194	3.056	99.575	0.000	0.000	0.000	4.639	46.394	46.394

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
105	2.550	8.366	-2.550	-8.366	19.600	0.430	3.140	2.194	6	5	6	6	4	114.551	0.482	0.482	0.000	0.000	1.472	7.511	11.057	4.996	7.356	39.697	2.249	19.118	0.005	0.005	39.493	1.868	40.493	2.566	33.734	30.420	33.457	-0.177	0.000	0.000	0.000	0.000	0.000	2.764	27.643	27.643
106	2.600	8.530	-2.600	-8.530	18.627	0.435	2.730	2.335	5	5	6	6	4	114.551	0.491	0.491	0.000	0.000	1.458	8.922	13.009	4.717	7.998	36.937	2.399	18.136	0.005	0.005	36.764	1.776	37.764	2.553	33.099	0.000	33.168	-0.177	0.000	0.000	0.000	0.000	0.000	2.602	26.019	30.255
107	2.650	8.694	-2.650	-8.694	17.742	0.348	1.970	1.961	6	5	6	6	5	114.551	0.501	0.501	0.000	0.000	1.444	6.799	9.820	4.552	6.574	34.457	2.018	17.242	0.003	0.004	34.334	1.694	35.334	2.579	34.347	0.000	32.890	-0.150	0.000	0.000	0.000	0.000	0.000	2.455	24.549	24.549
108	2.700	8.858	-2.700	-8.858	10.598	0.290	1.350	2.736	4	4	6	5	4	114.551	0.510	0.510	0.000	0.000	1.431	6.769	9.686	2.964	5.777	19.790	2.875	10.089	0.004	0.004	19.707	1.011	20.707	2.746	42.960	0.000	30.385	-0.126	0.000	0.000	0.000	0.000	0.000	1.453	14.529	19.790
109	2.750	9.022	-2.750	-9.022	9.733	0.220	2.120	2.260	5	4	6	5	4	114.551	0.519	0.519	0.000	0.000	1.418	4.662	6.611	2.707	5.153	17.747	2.388	9.214	0.007	0.007	17.620	0.926	18.620	2.736	42.397	0.000	29.934	-0.092	0.000	0.000	0.000	0.000	0.000	1.322	13.221	17.747
110	2.800	9.186	-2.800	-9.186	9.708	0.115	-0.360	1.185	5	4	6	5	5	114.551	0.529	0.529	0.000	0.000	1.405	4.650	6.535	2.576	4.148	17.366	1.253	9.179	-0.001	-0.001	17.387	0.931	18.387	2.646	37.657	0.000	29.879	-0.038	0.000	0.000	0.000	0.000	0.000	1.307	13.069	14.975
111	2.850	9.350	-2.850	-9.350	11.941	0.137	0.230	1.147	6	5	6	5	5	114.551	0.538	0.538	0.000	0.000	1.393	4.576	6.374	3.041	4.836	21.197	1.201	11.403	0.001	0.001	21.184	1.143	22.184	2.564	33.622	0.000	30.826	-0.054	0.000	0.000	0.000	0.000	0.000	1.594	15.935	18.194
112	2.900	9.514	-2.900	-9.514	14.540	0.180	-0.010	1.238	6	5	6	5	5	114.551	0.548	0.548	0.000	0.000	1.381	5.572	7.694	3.692	5.099	25.564	1.286	13.993	-0.000	-0.000	25.564	1.393	26.564	2.558	33.362	0.000	31.725	-0.078	0.000	0.000	0.000	0.000	0.000	1.924	19.236	19.236
113	2.950	9.678	-2.950	-9.678	15.725	0.194	2.460	1.234	6	5	6	5	5	114.551	0.557	0.557	0.000	0.000	1.369	6.026	8.251	3.941	5.396	27.244	1.279	15.169	0.005	0.005	27.107	1.499	28.107	2.531	32.097	0.000	32.059	-0.083	0.000	0.000	0.000	0.000	0.000	2.063	20.628	20.628
114	3.000	9.842	-3.000	-9.842	13.976	0.240	5.780	1.717	5	4	6	5	4	114.551	0.566	0.566	0.000	0.000	1.358	6.695	9.090	3.645	5.593	23.686	1.790	13.410	0.013	0.013	23.367	1.322	24.367	2.612	35.949	0.000	31.456	-0.097	0.000	0.000	0.000	0.000	0.000	1.818	18.180	20.547
115	3.050	10.006	-3.050	-10.006	13.281	0.235	1.830	1.769	5	4	6	5	4	114.551	0.576	0.576	0.000	0.000	1.347	6.362	8.568	3.518	5.336	22.076	1.850	12.706	0.004	0.004	21.977	1.267	22.977	2.643	37.472	0.000	31.173	-0.093	0.000	0.000	0.000	0.000	0.000	1.714	17.135	19.302
116	3.100	10.170	-3.100	-10.170	12.640	0.219	1.570	1.733	5	4	6	5	4	114.551	0.585	0.585	0.000	0.000	1.336	6.054	8.088	3.301	5.618	20.609	1.817	12.055	0.004	0.004	20.525	1.206	21.525	2.615	36.077	0.000	30.898	-0.084	0.000	0.000	0.000	0.000	0.000	1.618	16.176	20.609
117	3.150	10.335	-3.150	-10.335	11.951	0.211	3.390	1.766	5	4	6	5	4	114.551	0.595	0.595	0.000	0.000	1.325	5.725	7.587	3.173	5.296	19.108	1.858	11.357	0.009	0.009	18.930	1.135	19.930	2.647	37.712	0.000	30.592	-0.078	0.000	0.000	0.000	0.000	0.000	1.517	15.173	19.108
118	3.200	10.499	-3.200	-10.499	11.081	0.207	5.030	1.868	5	4	6	5	4	114.551	0.604	0.604	0.000	0.000	1.315	5.308	6.980	3.019	4.935	17.355	1.976	10.478	0.014	0.015	17.095	1.047	18.095	2.697	40.285	0.000	30.193	-0.072	0.000	0.000	0.000	0.000	0.000	1.396	13.959	17.355
119	3.250	10.663	-3.250	-10.663	10.093	0.199	6.900	1.972	5	4	5	5	4	114.551	0.613	0.613	0.000	0.000	1.305	4.835	6.308	2.833	4.531	15.462	2.099	9.480	0.021	0.023	15.110	0.946	16.110	2.753	43.341	0.000	29.710	-0.064	0.000	0.000	0.000	0.000	0.000	1.262	12.616	15.462
120	3.300	10.827	-3.300	-10.827	9.668	0.193	7.710	1.996	5	4	5	5	4	114.551	0.623	0.623	0.000	0.000	1.295	4.631	5.997	2.753	4.319	14.531	2.134	9.046	0.025	0.027	14.144	0.903	15.144	2.779	44.818	0.000	29.468	-0.058	0.000	0.000	0.000	0.000	0.000	1.199	11.994	14.531
121	3.350	10.991	-3.350	-10.991	8.760	0.193	9.590	2.203	5	4	5	4	4	114.551	0.632	0.632	0.000	0.000	1.285	4.196	5.393	2.594	3.976	12.862	2.375	8.128	0.034	0.037	12.389	0.811	13.389	2.849	48.896	0.000	28.961	-0.052	0.000	0.000	0.000	0.000	0.000	1.079	10.786	12.862
122	3.400	11.155	-3.400	-11.155	8.810	0.179	9.670	2.032	5	4	5	4	4	114.551	0.642	0.642	0.000	0.000	1.276	4.220	5.384	2.586	3.902	12.738	2.191	8.169	0.034	0.037	12.267	0.815	13.267	2.833	47.949	0.000	28.954	-0.044	0.000	0.000	0.000	0.000	0.000	1.077	10.768	12.738
123	3.450	11.319	-3.450	-11.319	8.696	0.169	9.040	1.943	5	4	5	4	4	114.551	0.651	0.651	0.000	0.000	1.267	4.166	5.276	2.553	3.790	12.365	2.100	8.046	0.032	0.035	11.931	0.806	12.931	2.834	47.995	0.000	28.857	-0.038	0.000	0.000	0.000	0.000	0.000	1.055	10.552	12.365
124	3.500	11.483	-3.500	-11.483	9.043	0.160	13.360	1.769	5	4	5	4	4	114.551	0.660	0.660	0.000	0.000	1.258	4.332	5.447	2.608	3.822	12.700	1.909	8.383	0.046	0.050	12.068	0.826	13.068	2.802	46.107	0.000	29.009	-0.032	0.000	0.000	0.000	0.000	0.000	1.089	10.895	12.700
125	3.550	11.647	-3.550	-11.647	9.041	0.155	21.050	1.714	5	4	5	4	4	114.551	0.670	0.670	0.000	0.000	1.249	4.331	5.408	2.605	3.761	12.505	1.851	8.372	0.073	0.078	11.523	0.803	12.523	2.801	46.029	0.000	28.975	-0.025	0.000	0.000	0.000	0.000	0.000	1.082	10.815	12.505
126	3.600	11.811	-3.600	-11.811	9.518	0.155	26.990	1.628	5	4	5	4	4	114.551	0.679	0.679	0.000	0.000	1.240	4.559	5.654	2.701	3.857	13.021	1.753	8.840	0.089	0.095	11.780	0.831	12.780	2.773	44.466	0.000	29.187	-0.023	0.000	0.000	0.000	0.000	0.000	1.131	11.307	13.021
127	3.650	11.975	-3.650	-11.975	9.031	0.153	29.070	1.694	5	4	4	4	4	114.551	0.689	0.689	0.000	0.000	1.231	4.326	5.328	2.616	3.665	12.122	1.834	8.343	0.100	0.109	10.803	0.778	11.803	2.810	46.566	0.000	28.903	-0.017	0.000	0.000	0.000	0.000	0.000	1.066	10.655	12.122
128	3.700	12.139	-3.700	-12.139	8.998	0.154	36.600	1.711	5	4	4	4	4	114.551	0.698	0.698	0.000	0.000	1.223	4.310	5.272	2.620	3.616	11.898	1.855	8.301	0.127	0.138	10.260	0.753	11.260	2.819	47.123	0.000	28.853	-0.013	0.000	0.000	0.000	0.000	0.000	1.054	10.544	11.898
129	3.750	12.303	-3.750	-12.303	8.819	0.147	38.350	1.667	5	4	4	4	4	114.551	0.707	0.707	0.000	0.000	1.215	4.224	5.133	2.580	3.503	11.473	1.812	8.112	0.136	0.148	9.780	0.730	10.780	2.827	47.596	0.000	28.725	-0.006	0.000	0.000	0.000	0.000	0.000	1.027	10.266	11.473
130	3.800	12.467	-3.800	-12.467	8.324	0.133	39.150	1.598	5	4	4	4	4	114.551	0.717	0.717	0.000	0.000	1.207	3.987	4.813	2.464	3.280	10.619	1.748	7.608	0.147	0.161	8.913	0.680	9.913	2.848	48.825	0.000	28.418	0.006	0.000	0.000	0.000	0.000	0.000	0.963	9.626	10.619
131	3.850	12.631	-3.850	-12.631	7.856	0.124	40.940	1.578	5	4	4	4	4	114.551	0.726	0.726	0.000	0.000	1.199	3.763	4.512	2.363	3.084	9.822	1.739	7.130	0.163	0.179	8.062	0.630	9.062	2.876	50.520	0.000	28.110	0.017	0.000	0.000	0.000	0.000	0.000	0.902	9.025	9.822
132	3.900	12.795	-3.900	-12.795	7.253	0.108	46.870	1.489	5	4	4	3	4	114.551	0.736	0.736	0.000	0.000	1.192	3.474	4.139	2.217	2.829	8.864	1.657	6.517	0.202	0.224	6.874	0.555	7.874	2.904	52.256	0.000	27.698	0.036	0.000	0.000	0.000	0.000	0.000	0.828	8.279	8.864
133	3.950	12.959	-3.950	-12.959	6.931	0.112	51.440	1.616	5	3	3	3	3	114.551	0.745	0.745	0.000	0.000	1.184	3.320	3.931	2.175	2.721	8.308	1.810	6.186	0.232	0.260	6.152	0.510	7.152	2.948	55.030	0.000	0.000	0.000	0.000	0.000	0.000	0.413	0.201	1.980	0.786	7.862	8.308
134	4.000	13.123	-4.000	-13.123	6.991	0.110	59.490	1.573	5	3	3	3	3	114.551	0.754	0.754	0.000	0.000	1.177	3.349	3.940	2.188	2.703	8.272	1.764	6.237	0.266	0.298	5.809	0.492	6.809	2.944	54.768	0.000	0.000	0.000	0.000	0.000	0.000	0.416	0.232	1.969	0.788	7.880	8.272
135	4.050	13.287	-4.050	-13.287	10.932	0.135	56.400	1.235	5	4	4	4	4	114.551	0.764	0.764	0.000	0.000	1.169	5.236	6.123	2.987	3.799	13.320	1.328	10.169	0.161	0.173	11.014	0.879	12.014	2.703	40.604	0.000	29.568	0.002	0.000	0.000	0.000	0.000	0.000	1.225	12.246	13.320
136	4.100	13.451	-4.100	-13.451	11.101	0.136	27.330	1.225	5	4	5	4	4	114.551	0.773	0.773	0.000	0.000	1.162	5.317	6.180	3.029	3.806	13.364	1.317	10.328	0.077	0.083	12.260	0.982	13.260	2.700	40.445	0.000	29.612	-0.008	0.000	0.000	0.000	0.000	0.000	1.236	12.359	13.364
137	4.150	13.615	-4.150	-13.615	11.223	0.144	29.270	1.283	5	4	5	4	4	114.551	0.783	0.783	0.000	0.000	1.155	5.376	6.210	3.079	3.822	13.347	1.379	10.440	0.081	0.088	12.179	0.988	13.179	2.710	41.005	0.000	29.635	-0.010	0.000	0.000	0.000	0.000	0.000	1.242	12.420	13.347
138	4.200	13.779	-4.200	-13.779	9.829	0.129	30.320	1.312	5	4	5	4	4	114.551	0.792	0.792	0.000	0.000	1.148	4.708	5.406	2.795	3.388	11.417	1.427	9.038	0.096	0.105	10.221	0.851	11.221	2.777	44.655	0.000	28.973	0.005	0.000	0.000	0.000	0.000	0.000	1.081	10.813	11.417
139	4.250	13.943	-4.250	-13.943	9.008	0.112	31.790	1.243	5	4	4	4	4	114.551	0.801	0.801	0.000	0.000	1.142	4.315	4.926	2.606	3.094	10.246	1.365	8.207	0.110	0.121	9.007	0.768	10.007	2.808	46.457	0.000	28.529	0.020	0.000	0.000	0.000	0.000	0.000	0.985	9.852	10.246
140	4.300	14.107	-4.300	-14.107	8.820	0.102	38.450	1.156	5	4	4	4	4	114.551	0.811	0.807	0.003	0.108	1.137	4.225	4.805	2.549	2.994	9.925	1.273	8.010	0.136	0.149	8.442	0.730	9.442	2.806	46.331	0.000	28.410	0.031	0.000	0.000	0.000	0.000	0.000	0.961	9.610	9.925
141	4.350	14.271	-4.350	-14.271	9.186	0.133	52.240	1.448	5	4	4	3	4	114.551	0.820	0.812	0.009	0.272	1.134	4.400	4.991	2.703	3.168	10.312	1.590	8.366	0.177	0.194	8.313	0.724	9.313	2.838	48.230	0.000	28.591	0.019	0.000	0.000	0.000	0.000	0.000	0.998	9.982	10.312
142	4.400	14.436	-4.400	-14.436	12.664	0.167	61.530	1.319	6	4	5	4	4	114.551	0.830	0.816	0.014	0.437	1.131	4.853	5.490	3.427	4.099	14.511	1.411	11.835	0.151	0.161	12.173	1.029	13.173	2.684	39.610	0.000	30.113	-0.012	0.000	0.000	0.000	0.000	0.000	1.373	13.725	14.511
143	4.450	14.600	-4.450	-14.600	36.832	0.413	75.630	1.121	7	5	7	6	5	117.733	0.839	0.820	0.019	0.601	1.128	11.762	13.270	8.181	9.231	43.895	1.147	35.993	0.064	0.065	41.039	3.302	42.039	2.266	21.281	40.876	35.200	-0.115	3.306	121.816	0.000	0.000	0.000	3.981	39.811	39.811
144	4.500	14.764	-4.500	-14.764	71.891	0.650	22.600	0.904	8	6	8	6	5	120.915	0.849	0.825	0.024	0.765	1.125	17.218	19.371	14.190	15.965	86.148	0.915	71.043	0.009	0.010	85.322	6.820	86.322	1.973	12.242	59.964	38.381	-0.164	2.380	171.169	0.000	0.000	0.000	7.749	77.486	77.486
145	4.550	14.928	-4.550	-14.928	88.519	0.864	7.830	0.976	8	6	9	6	5	120.915	0.859	0.830	0.029	0.929	1.122	21.200	23.783	17.144	19.232	105.685	0.986	87.660	0.002	0.002	105.425	8.457	106.425	1.923	10.956	65.845	39.362	-0.191	2.196	194.509	0.000	0.000	0.000	9.513	95.131	95.131
146	4.600	15.092	-4.600	-15.092	111.469	0.845	1.520	0.758	9	6	9	6	6	124.097	0.869	0.835	0.034	1.093	1.119	21.358	23.888	20.470	22.895	132.555	0.764	110.601	0.000	0.000	132.539	10.674	133.539	1.777	7.632	72.368	40.449	-0.189	2.045	228.033	0.000	0.000	0.000	11.944	119.442	119.442
147	4.650	15.256	-4.650	-15.256	123.746	0.939	-2.190	0.759	9	6	9	6	6	124.097	0.879	0.840	0.039	1.257	1.115	23.710	26.439	22.452	25.037	146.370	0.764	122.868	-0.001	-0.001	146.498	11.861	147.498	1.743	6.938	75.276	40.933	-0.198	1.986	245.908	0.000	0.000	0.000	13.220	132.197	132.197
148	4.700	15.420	-4.700	-15.420	128.262	1.116	-1.290	0.870	9	6	9	6	6	124.097	0.889	0.845	0.044	1.421	1.112	24.575	27.322	23.496	26.123	150.828	0.876	127.373	-0.001	-0.001	150.928	12.291	151.928	1.770	7.491	76.217	41.090	-0.214	1.969	252.603	0.000	0.000	0.000	13.661	136.610	136.610
149	4.750	15.584	-4.750	-15.584	115.401	1.420	-4.570	1.230	8	6	9	6	5	120.915	0.899	0.850	0.049	1.586	1.109	27.639	30.639	22.211	24.623	134.801	1.240	114.503	-0.002	-0.002	135.027	11.069	136.027	1.906	10.546	73.105	40.572	-0.238	2.032	234.596	0.000	0.000	0.000	12.256	122.556	122.556
150	4.800	15.748	-4.800	-15.748	115.880	1.484	-14.470	1.281	8	6	9	6	5	120.915	0.909	0.855	0.055	1.750	1.105	27.753	30.679	22.400	24.762	134.592	1.291	114.971	-0.004	-0.004	135.185	11.145	136.185	1.918	10.830	73.143	40.578	-0.242	2.032	235.570	0.000	0.000	0.000	12.272	122.717	122.717
151	4.850	15.912	-4.850	-15.912	96.872	1.573	-12.560	1.624	7	5	9	6	5	117.733	0.919	0.859	0.060	1.914	1.102	30.934	34.103	19.672	21.687	111.719	1.639	95.953	-0.005	-0.005	112.245	9.318	113.245	2.047	14.254	67.930	39.709	-0.251	2.149	208.232	0.000	0.000	0.000	10.231	102.309	102.309
152	4.900	16.076	-4.900	-16.076	76.218	1.747	-13.140	2.292	7	5	8	6	5	117.733	0.929	0.864	0.065	2.078	1.100	24.339	26.761	16.660	18.318	87.200	2.320	75.290	-0.006	-0.006	87.750	7.341	88.750	2.228	19.949	60.981	38.551	-0.272	2.352	179.326	0.000	0.000	0.000	8.028	80.284	80.284
153	4.950	16.240	-4.950	-16.240	56.767	1.406	-5.250	2.477	6	5	8	6	4	114.551	0.938	0.868	0.070	2.242	1.097	21.753	23.858	13.052	14.314	64.333	2.518	55.829	-0.004	-0.004	64.602	5.454	65.602	2.345	24.227	52.463	37.131	-0.250	2.706	153.654	0.000	0.000	0.000	5.964	59.644	59.644
154	5.000	16.404	-5.000	-16.404	44.223	1.468	3.620	3.320	5	4	8	6	4	114.551	0.948	0.872	0.075	2.406	1.094	21.183	23.175	10.989	12.023	49.622	3.392	43.275	0.001	0.001	49.579	4.226	50.579	2.514	31.297	45.234	35.926	-0.273	3.078	136.195	0.000	0.000	0.000	4.635	46.349	46.349
155	5.050	16.568	-5.050	-16.568	41.591	1.419	129.890	3.412	5	4	6	5	4	114.551	0.957	0.877	0.080	2.570	1.091	19.922	21.742	10.479	11.437	46.367	3.492	40.634	0.096	0.098	41.832	3.596	42.832	2.542	32.612	43.406	35.622	-0.256	3.180	132.299	0.000	0.000	0.000	4.348	43.485	43.485
156	5.100	16.732	-5.100	-16.732	40.834	1.379	180.080	3.377	5	4	6	5	4	114.551	0.966	0.881	0.085	2.735	1.089	19.560	21.295	10.307	11.221	45.272	3.459	39.868	0.136	0.139	38.986	3.373	39.986	2.546	32.781	42.810	35.522	-0.244	3.214	131.280	0.000	0.000	0.000	4.259	42.590	42.590
157	5.150	16.896	-5.150	-16.896	44.214	1.639	163.990	3.707	5	4	6	5	4	114.551	0.976	0.885	0.090	2.899	1.086	21.178	23.002	11.180	12.143	48.861	3.791	43.238	0.114	0.116	43.179	3.745	44.179	2.550	32.958	45.019	35.891	-0.281	3.093	136.819	0.000	0.000	0.000	4.600	46.003	46.003
158	5.200	17.060	-5.200	-17.060	60.712	2.357	309.560	3.882	5	4	6	5	4	114.551	0.985	0.890	0.096	3.063	1.083	29.081	31.509	14.761	15.993	67.171	3.946	59.728	0.158	0.160	56.412	4.891	57.412	2.468	29.257	54.040	37.394	-0.332	2.637	160.141	0.000	0.000	0.000	6.302	63.018	63.018
159	5.250	17.224	-5.250	-17.224	84.069	3.756	59.100	4.468	11	9	8	6	8	130.461	0.995	0.894	0.101	3.227	1.080	80.538	87.020	0.000	0.000	92.912	4.521	83.074	0.021	0.021	90.961	7.877	91.961	2.420	0.000	63.290	38.936	-0.466	2.283	191.968	0.000	0.000	0.000	8.702	87.020	87.020
160	5.300	17.388	-5.300	-17.388	93.251	4.940	48.250	5.298	11	9	8	6	8	130.461	1.006	0.900	0.106	3.391	1.077	89.335	96.225	0.000	0.000	102.529	5.355	92.246	0.015	0.015	100.973	8.789	101.973	2.451	0.000	66.172	39.416	-0.609	2.201	205.336	0.000	0.000	0.000	9.623	96.225	96.225
161	5.350	17.552	-5.350	-17.552	99.745	5.017	-5.550	5.030	11	9	9	6	8	130.461	1.017	0.906	0.111	3.555	1.074	95.556	102.609	0.000	0.000	109.059	5.082	98.729	-0.003	-0.003	109.373	9.572	110.373	2.416	0.000	68.014	39.723	-0.578	2.155	215.062	0.000	0.000	0.000	10.261	102.609	102.609
162	5.400	17.716	-5.400	-17.716	141.421	4.770	6.590	3.373	6	8	9	6	8	114.551	1.027	0.911	0.116	3.719	1.071	54.193	58.035	0.000	0.000	154.245	3.398	140.395	0.001	0.001	154.147	13.528	155.147	2.186	0.000	77.943	41.378	-0.427	1.945	275.213	0.000	0.000	0.000	14.509	145.087	145.087
163	5.450	17.880	-5.450	-17.880	123.139	4.209	-16.170	3.418	6	8	9	6	8	114.551	1.036	0.915	0.121	3.884	1.068	47.187	50.414	0.000	0.000	133.522	3.447	122.103	-0.005	-0.005	134.207	11.845	135.207	2.228	0.000	73.908	40.705	-0.413	2.026	249.594	0.000	0.000	0.000	12.604	126.035	126.035
164	5.500	18.044	-5.500	-18.044	118.073	2.895	-9.120	2.452	7	5	9	6	5	117.733	1.046	0.919	0.126	4.048	1.066	37.705	40.187	24.771	26.402	127.358	2.474	117.028	-0.003	-0.004	127.806	11.339	128.806	2.129	16.692	72.635	40.493	-0.326	2.054	242.564	0.000	0.000	0.000	12.056	120.560	120.560
165	5.550	18.208	-5.550	-18.208	124.747	2.954	-10.050	2.368	7	5	9	6	5	117.733	1.055	0.924	0.131	4.212	1.063	39.836	42.354	25.894	27.531	133.950	2.388	123.692	-0.004	-0.004	134.432	11.981	135.432

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
209	7.750	25.426	-7.750	-25.426	63.933	0.832	26.100	1.301	7	5	8	6	5	117.733	1.482	1.125	0.357	11.434	0.964	20.416	19.672	13.622	13.125	55.548	1.332	62.452	0.007	0.007	55.141	6.047	56.141	2.167	17.897	52.159	37.081	-0.157	2.776	177.578	0.000	0.000	0.000	5.902	59.016	59.016
210	7.800	25.590	-7.800	-25.590	85.942	1.006	192.600	1.171	8	5	8	6	5	120.915	1.491	1.129	0.362	11.598	0.962	20.583	19.792	17.384	16.716	74.805	1.191	84.452	0.066	0.067	69.801	7.657	70.801	2.037	13.969	60.580	38.484	-0.169	2.419	208.012	0.000	0.000	0.000	7.917	79.168	79.168
211	7.850	25.754	-7.850	-25.754	107.408	0.975	4.470	0.908	8	6	9	6	5	120.915	1.501	1.134	0.367	11.762	0.960	25.724	24.683	20.562	19.730	93.413	0.921	105.907	-0.002	-0.002	93.614	10.276	94.614	1.892	10.198	66.910	39.539	-0.174	2.226	239.161	0.000	0.000	0.000	9.873	98.733	98.733
212	7.900	25.918	-7.900	-25.918	116.229	0.470	-6.620	0.404	9	6	9	6	6	124.097	1.511	1.139	0.372	11.926	0.957	22.269	21.322	20.533	19.659	100.747	0.410	114.718	-0.005	-0.005	101.255	11.155	102.255	1.665	5.000	69.110	39.906	-0.112	2.171	252.486	0.000	0.000	0.000	10.661	106.609	106.609
213	7.950	26.082	-7.950	-26.082	114.939	0.403	-12.930	0.351	9	6	9	6	6	124.097	1.522	1.144	0.377	12.090	0.955	22.022	21.039	20.134	19.234	99.165	0.355	113.418	-0.007	-0.007	99.848	11.050	100.848	1.640	5.000	68.727	39.842	-0.099	2.182	250.859	0.000	0.000	0.000	10.519	105.193	105.193
214	8.000	26.246	-8.000	-26.246	107.015	0.619	-10.350	0.578	9	6	9	6	6	124.097	1.532	1.149	0.382	12.255	0.953	20.504	19.545	19.673	18.753	91.822	0.587	105.484	-0.007	-0.007	92.436	10.283	93.436	1.780	7.695	66.616	39.490	-0.133	2.236	239.423	0.000	0.000	0.000	9.773	97.726	97.726
215	8.050	26.410	-8.050	-26.410	97.231	0.868	6.610	0.893	8	6	9	6	5	120.915	1.542	1.154	0.388	12.419	0.951	23.287	22.150	18.844	17.924	82.941	0.907	95.690	-0.002	-0.002	83.098	9.295	84.098	1.925	11.000	63.806	39.022	-0.161	2.317	225.423	0.000	0.000	0.000	8.860	88.601	88.601
216	8.100	26.574	-8.100	-26.574	86.784	1.019	13.380	1.174	8	5	9	6	5	120.915	1.552	1.159	0.393	12.583	0.949	20.785	19.729	17.568	16.676	73.570	1.196	85.233	0.000	0.000	73.549	8.274	74.549	2.039	14.027	60.489	38.469	-0.175	2.429	210.849	0.000	0.000	0.000	7.892	78.917	78.917
217	8.150	26.739	-8.150	-26.739	86.374	1.504	40.730	1.741	7	5	8	6	5	117.733	1.561	1.164	0.398	12.747	0.947	27.582	26.129	18.309	17.344	72.915	1.773	84.813	0.010	0.010	72.164	8.153	73.164	2.154	17.492	60.295	38.437	-0.214	2.437	210.539	0.000	0.000	0.000	7.839	78.387	78.387
218	8.200	26.903	-8.200	-26.903	96.936	1.852	92.220	1.911	7	5	8	6	5	117.733	1.571	1.168	0.403	12.911	0.945	30.955	29.267	20.479	19.362	81.668	1.942	95.365	0.026	0.026	79.548	9.011	80.548	2.146	17.231	63.546	38.978	-0.236	2.328	225.779	0.000	0.000	0.000	8.780	87.801	87.801
219	8.250	27.067	-8.250	-27.067	119.228	1.223	9.230	1.026	8	6	9	6	5	120.915	1.581	1.173	0.408	13.075	0.944	28.555	26.944	22.863	21.573	100.349	1.040	117.647	-0.001	-0.001	100.451	11.394	101.451	1.896	10.305	69.422	39.958	-0.191	2.170	258.835	0.000	0.000	0.000	10.778	107.777	107.777
220	8.300	27.231	-8.300	-27.231	128.018	0.447	-8.370	0.349	9	6	9	6	6	124.097	1.591	1.178	0.413	13.239	0.942	24.528	23.096	22.150	20.857	107.387	0.354	126.427	-0.005	-0.005	107.959	12.289	108.959	1.604	4.421	71.401	40.288	-0.105	2.125	272.126	0.000	0.000	0.000	11.548	115.480	115.480
221	8.350	27.395	-8.350	-27.395	128.642	0.458	-10.850	0.356	9	6	9	6	6	124.097	1.601	1.183	0.418	13.404	0.940	24.648	23.159	22.281	20.935	107.447	0.361	127.042	-0.006	-0.006	108.087	12.356	109.087	1.607	4.471	71.479	40.301	-0.107	2.124	273.337	0.000	0.000	0.000	11.580	115.795	115.795
222	8.400	27.559	-8.400	-27.559	120.204	0.704	-7.370	0.586	9	6	9	6	6	124.097	1.611	1.188	0.423	13.568	0.938	23.031	21.594	21.842	20.479	99.874	0.594	118.593	-0.005	-0.006	100.425	11.538	101.425	1.747	7.023	69.473	39.966	-0.142	2.172	261.134	0.000	0.000	0.000	10.797	107.969	107.969
223	8.450	27.723	-8.450	-27.723	98.462	0.989	-1.270	1.004	8	6	9	6	5	120.915	1.621	1.193	0.429	13.732	0.936	23.582	22.064	19.322	18.079	81.219	1.021	96.841	-0.005	-0.005	81.611	9.436	82.611	1.958	11.842	63.695	39.003	-0.170	2.328	229.356	0.000	0.000	0.000	8.826	88.257	88.257
224	8.500	27.887	-8.500	-27.887	72.337	0.913	5.900	1.262	8	5	8	6	5	120.915	1.631	1.198	0.434	13.896	0.934	17.325	16.177	15.165	14.160	59.062	1.291	70.706	-0.003	-0.004	59.270	6.912	60.270	2.127	16.636	54.799	37.521	-0.161	2.668	193.079	0.000	0.000	0.000	6.471	64.710	64.710
225	8.550	28.051	-8.550	-28.051	75.191	0.630	21.060	0.838	8	6	8	6	5	120.915	1.641	1.202	0.439	14.060	0.932	18.008	16.782	15.035	14.011	61.193	0.857	73.551	0.003	0.003	61.011	7.140	62.011	2.007	13.143	55.851	37.696	-0.127	2.622	197.258	0.000	0.000	0.000	6.713	67.129	67.129
226	8.600	28.215	-8.600	-28.215	87.819	0.517	14.210	0.589	8	6	9	6	6	120.915	1.651	1.207	0.444	14.224	0.930	21.033	19.562	16.653	15.488	71.406	0.600	86.168	-0.000	-0.000	71.406	8.371	72.406	1.866	9.588	60.244	38.428	-0.112	2.447	214.998	0.000	0.000	0.000	7.825	78.246	78.246
227	8.650	28.379	-8.650	-28.379	83.729	0.479	6.260	0.572	8	6	9	6	6	120.915	1.661	1.212	0.449	14.388	0.928	20.053	18.614	15.947	14.802	67.739	0.584	82.069	-0.003	-0.003	67.949	8.003	68.949	1.878	9.866	58.820	38.191	-0.105	2.502	209.558	0.000	0.000	0.000	7.445	74.454	74.454
228	8.700	28.543	-8.700	-28.543	77.418	0.426	7.720	0.550	8	6	8	6	6	120.915	1.671	1.217	0.454	14.553	0.926	18.542	17.177	14.862	13.768	62.276	0.562	75.748	-0.003	-0.003	62.451	7.394	63.451	1.899	10.378	56.517	37.807	-0.095	2.597	201.109	0.000	0.000	0.000	6.871	68.707	68.707
229	8.750	28.707	-8.750	-28.707	81.287	0.385	-2.110	0.474	8	6	9	6	6	120.915	1.681	1.222	0.459	14.717	0.925	19.468	18.000	15.319	14.164	65.191	0.484	79.607	-0.006	-0.007	65.621	7.794	66.621	1.849	5.000	57.859	38.031	-0.087	2.542	206.707	0.000	0.000	0.000	7.200	71.998	71.998
230	8.800	28.871	-8.800	-28.871	72.961	0.509	-6.190	0.698	8	6	8	6	5	120.915	1.691	1.226	0.464	14.881	0.923	17.474	16.124	14.423	13.309	58.137	0.714	71.271	-0.009	-0.009	58.673	7.008	59.673	1.977	12.346	54.705	37.505	-0.109	2.678	195.506	0.000	0.000	0.000	6.450	64.498	64.498
231	8.850	29.035	-8.850	-29.035	69.481	0.707	1.840	1.018	8	5	8	6	5	120.915	1.701	1.231	0.469	15.045	0.921	16.641	15.325	14.346	13.212	55.075	1.043	67.781	-0.006	-0.006	55.409	6.651	56.409	2.089	15.482	53.249	37.262	-0.135	2.747	190.960	0.000	0.000	0.000	6.130	61.302	61.302
232	8.900	29.199	-8.900	-29.199	74.791	0.681	-3.090	0.911	8	5	8	6	5	120.915	1.711	1.236	0.475	15.209	0.919	17.912	16.464	15.118	13.896	59.150	0.932	73.081	-0.008	-0.008	59.612	7.174	60.612	2.035	13.917	55.303	37.605	-0.132	2.654	198.547	0.000	0.000	0.000	6.586	65.858	65.858
233	8.950	29.363	-8.950	-29.363	83.802	0.425	-4.410	0.507	8	6	9	6	6	120.915	1.721	1.241	0.480	15.373	0.917	20.071	18.413	15.829	14.521	66.179	0.518	82.083	-0.007	-0.008	66.676	8.041	67.676	1.855	9.340	58.509	38.139	-0.094	2.520	211.259	0.000	0.000	0.000	7.365	73.650	73.650
234	9.000	29.527	-9.000	-29.527	83.262	0.331	-9.300	0.398	8	6	9	6	6	120.915	1.730	1.246	0.485	15.537	0.916	19.941	18.258	15.458	14.154	65.482	0.406	81.532	-0.009	-0.010	66.104	8.004	67.104	1.808	5.000	58.268	38.099	-0.073	2.530	210.774	0.000	0.000	0.000	7.303	73.034	73.034
235	9.050	29.691	-9.050	-29.691	81.988	0.570	-1.970	0.695	8	6	9	6	6	120.915	1.740	1.250	0.490	15.701	0.914	19.636	17.945	15.963	14.588	64.203	0.710	80.248	-0.007	-0.007	64.644	7.860	65.644	1.937	11.311	57.771	38.016	-0.117	2.551	209.271	0.000	0.000	0.000	7.178	71.778	71.778
236	9.100	29.855	-9.100	-29.855	77.318	0.669	-1.850	0.865	8	6	8	6	5	120.915	1.750	1.255	0.495	15.866	0.912	18.518	16.890	15.496	14.134	60.228	0.885	75.569	-0.007	-0.007	60.669	7.413	61.669	2.013	13.307	56.035	37.727	-0.130	2.625	203.079	0.000	0.000	0.000	6.756	67.561	67.561
237	9.150	30.019	-9.150	-30.019	61.330	1.245	6.400	2.030	7	5	8	6	5	117.733	1.760	1.260	0.500	16.030	0.910	19.585	17.830	13.976	12.724	47.302	2.090	59.571	-0.005	-0.005	47.540	5.856	48.540	2.325	23.459	49.342	36.611	-0.189	2.949	180.925	0.000	0.000	0.000	5.349	53.491	53.491
238	9.200	30.183	-9.200	-30.183	70.423	1.345	69.340	1.910	7	5	8	6	5	117.733	1.770	1.264	0.505	16.194	0.909	22.488	20.437	15.617	14.192	54.319	1.959	68.654	0.024	0.024	53.006	6.539	54.006	2.262	21.142	53.253	37.263	-0.193	2.754	194.039	0.000	0.000	0.000	6.131	61.311	61.311
239	9.250	30.347	-9.250	-30.347	93.913	0.767	14.850	0.817	8	6	9	6	5	120.915	1.780	1.269	0.510	16.358	0.907	22.492	20.403	18.242	16.548	72.628	0.832	92.134	-0.000	-0.001	72.665	8.952	73.665	1.931	11.153	61.451	38.629	-0.141	2.417	227.060	0.000	0.000	0.000	8.161	81.611	81.611
240	9.300	30.511	-9.300	-30.511	93.926	0.698	-8.730	0.743	8	6	9	6	6	120.915	1.789	1.274	0.516	16.522	0.905	22.495	20.367	18.087	16.376	72.357	0.758	92.137	-0.008	-0.009	72.975	9.024	73.975	1.908	10.578	61.401	38.621	-0.133	2.419	227.344	0.000	0.000	0.000	8.147	81.468	81.468
241	9.350	30.675	-9.350	-30.675	82.235	0.979	-8.880	1.190	8	5	9	6	5	120.915	1.799	1.279	0.521	16.686	0.904	19.695	17.799	16.909	15.280	62.931	1.217	80.436	-0.010	-0.010	63.555	7.905	64.555	2.079	15.170	57.537	37.977	-0.162	2.567	211.171	0.000	0.000	0.000	7.119	71.194	71.194
242	9.400	30.840	-9.400	-30.840	75.597	1.385	-2.090	1.832	7	5	8	6	5	117.733	1.809	1.283	0.526	16.850	0.902	24.141	21.776	16.531	14.912	57.520	1.877	73.788	-0.008	-0.008	57.981	7.248	58.981	2.229	19.986	55.072	37.566	-0.198	2.674	202.231	0.000	0.000	0.000	6.533	65.328	65.328
243	9.450	31.004	-9.450	-31.004	71.919	1.291	27.000	1.795	7	5	8	6	5	117.733	1.819	1.288	0.531	17.015	0.900	22.966	20.680	15.802	14.229	54.453	1.842	70.100	0.004	0.004	54.210	6.809	55.210	2.240	20.376	53.592	37.319	-0.188	2.743	197.371	0.000	0.000	0.000	6.204	62.040	62.040
244	9.500	31.168	-9.500	-31.168	82.423	1.175	30.990	1.426	7	5	8	6	5	117.733	1.829	1.292	0.536	17.179	0.899	26.321	23.659	17.298	15.549	62.385	1.458	80.596	0.005	0.005	62.051	7.803	63.051	2.130	16.720	57.449	37.962	-0.177	2.573	212.188	0.000	0.000	0.000	7.098	70.977	70.977
245	9.550	31.332	-9.550	-31.332	78.904	0.926	15.060	1.174	8	5	9	6	5	120.915	1.838	1.297	0.541	17.343	0.897	18.898	16.956	16.308	14.632	59.439	1.202	77.066	-0.001	-0.001	59.493	7.514	60.493	2.092	15.554	56.147	37.745	-0.155	2.629	207.558	0.000	0.000	0.000	6.782	67.824	67.824
246	9.600	31.496	-9.600	-31.496	80.728	1.285	26.970	1.592	7	5	8	6	5	117.733	1.848	1.302	0.546	17.507	0.896	25.779	23.089	17.218	15.422	60.620	1.629	78.881	0.004	0.004	60.393	7.653	61.393	2.169	17.979	56.750	37.846	-0.186	2.605	210.344	0.000	0.000	0.000	6.927	69.268	69.268
247	9.650	31.660	-9.650	-31.660	99.705	1.865	63.210	1.871	7	5	9	6	5	117.733	1.858	1.306	0.551	17.671	0.894	31.839	28.467	21.089	18.855	74.935	1.906	97.848	0.014	0.015	73.846	9.363	74.846	2.149	17.323	62.752	38.846	-0.225	2.381	237.448	0.000	0.000	0.000	8.540	85.401	85.401
248	9.700	31.824	-9.700	-31.824	138.596	2.505	16.970	1.807	8	5	9	6	5	120.915	1.868	1.311	0.557	17.835	0.893	33.194	29.625	28.034	25.020	104.339	1.832	136.729	-0.000	-0.000	104.359	13.227	105.359	2.037	13.966	72.141	40.411	-0.257	2.131	295.435	0.000	0.000	0.000	11.850	118.502	118.502
249	9.750	31.988	-9.750	-31.988	196.112	2.697	-6.010	1.375	8	6	9	6	5	120.915	1.877	1.316	0.562	17.999	0.891	46.969	41.843	36.926	32.897	147.682	1.389	194.236	-0.004	-0.004	148.251	18.806	149.251	1.847	9.145	82.039	42.061	-0.259	1.935	379.624	0.000	0.000	0.000	16.737	167.374	167.374
250	9.800	32.152	-9.800	-32.152	236.550	2.328	-9.570	0.984	9	6	9	7	6	124.097	1.888	1.321	0.567	18.164	0.889	45.323	40.302	42.070	37.409	177.754	0.992	234.664	-0.004	-0.004	178.409	22.690	179.409	1.685	5.837	87.359	42.947	-0.241	0.000	0.000	0.000	0.000	0.000	20.151	201.508	201.508
251	9.850	32.316	-9.850	-32.316	252.960	2.290	-11.280	0.905	9	6	10	7	6	124.097	1.898	1.326	0.572	18.328	0.888	48.467	43.015	44.291	39.309	189.450	0.912	251.063	-0.004	-0.004	190.147	24.267	191.147	1.639	5.018	89.226	43.258	-0.239	0.000	0.000	0.000	0.000	0.000	21.508	215.075	215.075
252	9.900	32.480	-9.900	-32.480	249.812	2.525	-9.370	1.011	9	6	10	7	6	124.097	1.908	1.331	0.577	18.492	0.886	47.864	42.399	44.325	39.264	186.356	1.019	247.904	-0.003	-0.004	187.009	23.960	188.009	1.678	5.712	88.813	43.190	-0.248	0.000	0.000	0.000	0.000	0.000	21.199	211.995	211.995
253	9.950	32.644	-9.950	-32.644	244.149	1.768	-3.430	0.724	9	6	9	7	6	124.097	1.918	1.336	0.582	18.656	0.884	46.779	41.359	41.956	37.095	181.402	0.730	242.231	-0.003	-0.003	181.918	23.400	182.918	1.583	4.088	88.101	43.071	-0.214	0.000	0.000	0.000	0.000	0.000	20.680	206.796	206.796
254	10.000	32.808	-10.000	-32.808	232.605	2.014	2.330	0.866	9	6	9	6	6	124.097	1.928	1.341	0.587	18.820	0.882	44.567	39.329	40.918	36.109	172.097	0.873	230.677	-0.002	-0.002	172.481	22.277	173.481	1.653	5.259	86.659	42.831	-0.226	2.044	475.684	0.000	0.000	0.000	19.665	196.646	196.646
255	10.050	32.972	-10.050	-32.972	219.496	2.170	7.360	0.989	9	6	9	6	6	124.097	1.938	1.346	0.592	18.984	0.881	42.055	37.043	39.405	34.708	161.700	0.997	217.558	-0.002	-0.002	161.969	21.006	162.969	1.712	6.346	84.942	42.544	-0.233	1.961	430.717	0.000	0.000	0.000	18.521	185.215	185.215
256	10.100	33.136	-10.100	-33.136	227.401	2.086	17.770	0.917	9	6	9	6	6	124.097	1.949	1.351	0.598	19.148	0.879	43.570	38.305	40.357	35.480	166.940	0.925	225.453	-0.000	-0.000	166.972	21.732	167.972	1.679	5.723	85.902	42.704	-0.228	1.999	454.839	0.000	0.000	0.000	19.153	191.526	191.526
257	10.150	33.300	-10.150	-33.300	224.605	1.964	21.590	0.874	9	6	9	6	6	124.097	1.959	1.356	0.603	19.313	0.878	43.034	37.763	39.723	34.857	164.247	0.882	222.647	0.000	0.000	164.194	21.453	165.194	1.669	5.539	85.494	42.636	-0.222	1.981	445.204	0.000	0.000	0.000	18.882	188.817	188.817
258	10.200	33.464	-10.200	-33.464	221.854	1.922	24.670	0.866	9	6	9	6	6	124.097	1.969	1.361	0.608	19.477	0.876	42.507	37.232	39.258	34.386	161.607	0.874	219.886	0.001	0.001	161.488	21.180	162.488	1.670	5.569	85.088	42.569	-0.220	1.967	436.606	0.000	0.000	0.000	18.616	186.158	186.158
259	10.250	33.628	-10.250	-33.628	235.445	2.171	23.240	0.922	9	6	9	6	6	124.097	1.979	1.366	0.613	19.641	0.874	45.111	39.439	41.679	36.439	170.953	0.930	233.467	0.000	0.000	170.871	22.486	171.871	1.671	5.589	86.739	42.844	-0.231	2.052	483.323	0.000	0.000	0.000	19.720	197.196	197.196
260	10.300	33.792	-10.300	-33.792	256.502	2.385	24.290	0.930	9	6	10	7	6	124.097	1.989	1.371	0.618	19.805	0.873	49.146	42.887	45.053	39.316	185.677	0.937	254.513	0.001	0.001	185.574	24.500	186.574	1.648	5.180	89.141	43.244	-0.239	0.000	0.000	0.000	0.000	0.000	21.444	214.435	214.435
261	10.350	33.956	-10.350	-33.956	249.549	2.593	20.610	1.039	9	6	10	7	6	124.097	2.000	1.376	0.623	19.969	0.871	47.814	41.648	44.494	38.757	179.933	1.047	247.550	0.000	0.000	179.918	23.845	180.918	1.692	5.973	88.300	43.104	-0.248	0.000	0.000	0.000	0.000	0.000	20.824	208.239	208.239
262	10.400	34.120	-10.400	-34.120	252.539	2.633	22.330	1.043	9	6	10	7	6	124.097	2.010	1.381	0.628	20.133	0.869	48.387	42.070	44.998	39.123	181.432	1.051	250.531	0.000	0.000	181.382	24.127	182.382	1.690	5.938	88.589	43.152	-0.249	0.000	0.000	0.000	0.000	0.000	21.035	210.348	210.348
263	10.450	34.284	-10.450	-34.284	266.214	2.777	27.880	1.043	9	6	10	7	6	124.097	2.020	1.386	0.633	20.297	0.868	51.007	44.267	47.193	40.957	190.630	1.051	264.195	0.001	0.001	190.459	25.420	191.459	1.675	5.665	90.048	43.396	-0.253	0.000	0.000	0.000	0.000	0.000	22.133	221.333	221.333
264	10.500	34.448	-10.500	-34.448	316.410	3.265	25.600	1.032	9	6	10	7	6	124.097	2.030	1.392	0.639	20.462	0.866	60.624	52.518	55.095	47.728	226.016	1.039	314.381	0.001	0.001	225.901	30.236	226.901	1.623	4.737	94.948	44.212	-0.268	0.000	0.000	0.000	0.000	0.000	26.259	262.588	262.588
265	10.550	34.612	-10.550	-34.612	380.328	3.976	42.920	1.045	9	6	10	7	8	124.097	2.040	1.397	0.644	20.626	0.865	72.871	63.012	65.218	56.395	270.976	1.051	378.289	0.002	0.002	270.478	36.307	271.478	1.577	3.985	0.000	45.082	-0.287	0.000	0.000	0.000	0.000	0.000	31.506	315.061	315.061
266	10.600	34.776	-10.600	-34.776	405.895	4.582	43.990	1.129	9	6	10	7	8	124.097	2.050	1.402	0.649	20.790	0.863	77.769	67.127	69.828	60.272	288.239	1.135	403.845	0.002	0.002	287.722	38.753	288.722	1.586	4.141	0.000	45.385	-0.301	0.000	0.000	0.000	0.000	0.000	33.563	335.633	335.633
267	10.650	34.941	-10.650	-34.941	430.607	5.014	44.440	1.164	9	6	10	7	8	124.097	2.061	1.407	0.654	20.954	0.862	82.504	71.085	73.985	63.745	304.770	1.170	428.548	0.002	0.002	304.248	41.119	305.248	1.583	4.079	0.000	45.658	-0.310	0.000	0.000	0.000	0.000	0.000	35.543	355.427	355.427
268	10.700	35.105	-10.700	-35.105	464.152	1.925	41.900	0.415	10	7	10	7	6	127.279	2.071	1.412	0.659	21.118	0.860	74.110	63.735	71.232	61.260	327.410	0.417	462.082	0.001	0.001	326.950	44.340	327.950	1.222	0.000	0.000	46.008	-0.216	0.000	0.000	0.000	0.000	0.000	38.241	382.410	382.410
269	10.750	35.269	-10.750	-35.269	531.656	3.347	73.040	0.630	10	6	10	7	8	127.279	2.081	1.417	0.664	21.282	0.858	84.888	72.867	83.911	72.029	373.825	0.632	529.575	0.003	0.003	372.684	50.714	373.684	1.315	0.563

ConeTec CPT Interpretations	
Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011	
DAS Version: W47	
Interpretation Format:	All but Liquefaction Parameters (NLI)
Run ID:	1347638904
Job No:	12-972
Client:	TertaTech
Project:	Dump Road
Facility:	Dump Road
Sounding ID:	DR-CPT-15a
Cone ID:	167:T1500F15U500
Operator:	TS-TW
CPT Date:	Aug-27-2012
CPT Time:	12:35
CPT File:	972CP15A.COR
Tip Units:	tsf
Sleeve Units:	tsf
PP Units:	ft
Tip Conversion to bar:	0.9580
Sleeve Conversion to bar:	0.9580
PP Conversion to meters:	0.3050
Col 5 (Extra Module) Parameter	N/A
Col 5 (Extra Module) Units	N/A
Coord Source:	
Coord Type:	
UTM Zone:	N/A
Easting / Long:	76.408030
Northing / Lat:	39.325400
Elevation:	0.000
Tip Net Area Ratio:	0.80
Unit Weight of Soil Base:	Based on Soil Zones

Unit Weight of Soil (Def):	18.64	kN/m^3	118.62	pcf	
Unit Weight of Water:	9.81	kN/m^3	62.43	pcf	
Equilibrium U Profile Used:	No				
Soil Unit Weight Profile Used:	No				
Water Table	3.96	m	13.00	ft	
Averaging Interval:	0.00	m	0.00	ft	
Su Factors Nkt and Ndu:	15.0	8.0			
Cn Exp. and Limits:	0.50	0.00	1.70		
Qc1 Exp. and Limits:	0.50	0.00	1.70		
State Parameter M:	1.20				
NC Su / p':	0.30				

Relative Density Method:	All Sands - Jamilokowski (1985)
Phi Angle Method:	Kulhawy and Mayne (1990)
Youngs Modulus Sand Type:	Recent
N160lc Method:	Based on qc1n

Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (Ic)	N160 (Ic)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
m	ft	m	ft	tsf	tsf	ft	%						pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa			%	%	deg			tsf	tsf	tsf		MPa		
0.050	0.164	-0.050	-0.164	5.613	0.141	0.440	2.512	4	8	5	7	8	114.551	0.009	0.009	0.000	0.000	1.700	3.585	6.094	0.000	0.000	596.446	2.516	5.603	0.002	0.002	594.984	0.536	595.984	2.987	0.000	51.001	28.171	-0.509	0.000	0.000	0.000	0.000	0.914	9.141	9.141
0.100	0.328	-0.100	-0.328	10.328	0.269	4.490	2.605	5	8	6	7	8	114.551	0.019	0.019	0.000	0.000	1.700	4.947	8.410	0.000	0.000	548.681	2.609	10.309	0.014	0.014	541.222	0.976	542.222	2.778	0.000	58.547	31.084	-0.507	0.000	0.000	0.000	0.000	1.682	16.820	16.820
0.150	0.492	-0.150	-0.492	12.792	0.396	-6.080	3.096	4	8	6	7	8	114.551	0.028	0.028	0.000	0.000	1.700	8.170	13.889	0.000	0.000	452.881	3.103	12.764	-0.015	-0.015	459.614	1.244	460.614	2.749	0.000	58.869	32.106	-0.540	0.000	0.000	0.000	0.000	2.083	20.833	20.833
0.200	0.656	-0.200	-0.656	15.998	0.535	1.280	3.344	4	8	6	7	8	114.551	0.038	0.038	0.000	0.000	1.700	10.217	17.370	0.000	0.000	424.724	3.352	15.960	0.002	0.003	423.661	1.529	424.661	2.695	0.000	61.156	33.175	-0.558	0.000	0.000	0.000	0.000	2.605	26.054	26.054
0.250	0.820	-0.250	-0.820	28.486	0.816	0.890	2.865	5	8	7	7	8	114.551	0.047	0.047	0.000	0.000	1.700	13.645	23.196	0.000	0.000	605.426	2.869	28.439	0.001	0.001	604.834	2.726	605.834	2.463	0.000	74.495	35.931	-0.549	3.056	87.085	0.000	0.000	4.639	46.392	46.392
0.300	0.984	-0.300	-0.984	37.801	0.949	3.290	2.511	6	8	8	7	8	114.551	0.056	0.056	0.000	0.000	1.700	14.485	24.625	0.000	0.000	669.610	2.514	37.744	0.003	0.003	667.788	3.611	668.788	2.335	0.000	79.991	37.282	-0.522	2.644	100.004	0.000	0.000	6.156	61.562	61.562
0.350	1.148	-0.350	-1.148	70.628	1.815	1.210	2.570	6	0	8	0	0	114.551	0.066	0.066	0.000	0.000	1.700	27.064	46.010	0.000	0.000	1072.987	2.572	70.562	0.001	0.001	1072.413	6.763	1073.413	2.155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.502	115.024	115.024
0.400	1.312	-0.400	-1.312	110.156	2.468	-0.640	2.240	7	0	9	0	0	117.733	0.075	0.075	0.000	0.000	1.700	35.176	59.800	0.000	0.000	1462.147	2.242	110.081	-0.000	-0.000	1462.412	10.555	1463.412	1.986	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.940	179.400	179.400
0.450	1.476	-0.450	-1.476	88.825	2.671	2.360	3.007	6	0	9	0	0	114.551	0.085	0.085	0.000	0.000	1.700	34.038	57.864	0.000	0.000	1046.312	3.010	88.740	0.001	0.001	1045.443	8.502	1046.443	2.145	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.466	144.660	144.660
0.500	1.640	-0.500	-1.640	129.956	2.134	8.900	1.642	8	0	9	0	0	120.915	0.095	0.095	0.000	0.000	1.700	31.124	52.911	0.000	0.000	1374.662	1.643	129.861	0.002	0.002	1371.721	12.423	1372.721	1.836	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.165	211.646	211.646
0.550	1.804	-0.550	-1.804	221.377	2.449	-5.300	1.106	9	0	9	0	0	124.097	0.105	0.105	0.000	0.000	1.700	42.416	72.107	0.000	0.000	2117.143	1.107	221.272	-0.001	-0.001	2118.726	21.224	2119.726	1.559	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	36.053	360.534	360.534
0.600	1.968	-0.600	-1.968	240.907	3.047	9.070	1.265	9	0	9	0	0	124.097	0.115	0.115	0.000	0.000	1.700	46.158	78.468	0.000	0.000	2099.465	1.265	240.792	0.001	0.001	2096.996	23.052	2097.996	1.586	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	39.234	392.341	392.341
0.650	2.133	-0.650	-2.133	186.137	3.757	1.180	2.018	8	0	9	0	0	120.915	0.125	0.125	0.000	0.000	1.700	44.580	75.786	0.000	0.000	1491.214	2.020	186.013	0.000	0.000	1490.919	17.828	1491.919	1.818	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.314	303.143	303.143
0.700	2.297	-0.700	-2.297	140.301	2.334	3.360	1.664	8	0	9	0	0	120.915	0.135	0.135	0.000	0.000	1.700	33.602	57.124	0.000	0.000	1040.925	1.665	140.166	0.001	0.001	1040.146	13.431	1041.146	1.820	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22.849	228.494	228.494
0.750	2.461	-0.750	-2.461	102.211	2.372	8.140	2.321	7	8	9	7	8	117.733	0.145	0.145	0.000	0.000	1.700	32.639	55.487	0.000	0.000	706.628	2.324	102.066	0.002	0.002	704.869	9.767	705.869	2.019	0.000	0.000	42.034	-0.509	1.879	192.133	0.000	0.000	16.646	166.461	166.461
0.800	2.625	-0.800	-2.625	74.226	1.025	2.500	1.381	7	6	8	7	8	117.733	0.154	0.154	0.000	0.000	1.700	23.703	40.295	14.487	24.628	480.681	1.384	74.072	0.001	0.001	480.174	7.103	481.174	1.944	11.474	84.920	40.506	-0.376	2.029	150.669	0.000	0.000	12.088	120.884	120.884
0.850	2.789	-0.850	-2.789	24.900	0.935	-0.030	3.755	5	8	7	6	8	114.551	0.164	0.164	0.000	0.000	1.700	11.927	20.276	0.000	0.000	151.179	3.780	24.736	-0.000	-0.000	151.184	2.385	152.184	2.588	0.000	52.753	35.288	-0.462	3.267	81.391	0.000	0.000	4.055	40.552	40.552
0.900	2.953	-0.900	-2.953	18.435	0.406	10.360	2.202	5	5	6	6	5	114.551	0.173	0.173	0.000	0.000	1.700	8.830	15.011	4.628	7.868	105.549	2.223	18.262	0.018	0.018	103.679	1.735	104.679	2.535	32.267	43.335	33.852	-0.284	3.742	69.018	0.000	0.000	3.002	30.023	30.023
0.950	3.117	-0.950	-3.117	12.455	0.258	0.820	2.071	5	5	6	6	5	114.551	0.182	0.182	0.000	0.000	1.700	5.966	10.142	3.323	5.649	67.280	2.102	12.273	0.002	0.002	67.140	1.191	68.140	2.657	38.191	31.339	31.979	-0.228	0.000	0.000	0.000	0.000	2.028	20.284	20.284
1.000	3.281	-1.000	-3.281	28.304	0.277	-1.000	0.979	7	6	7	6	6	117.733	0.192	0.192	0.000	0.000	1.700	9.038	15.365	6.054	10.292	146.464	0.985	28.112	-0.001	-0.001	146.627	2.714	147.627	2.176	18.204	54.138	35.900	-0.222	3.066	86.810	0.000	0.000	4.610	46.095	46.095
1.050	3.445	-1.050	-3.445	47.716	0.390	-0.610	0.817	7	6	8	7	6	117.733	0.202	0.202	0.000	0.000	1.700	15.237	25.904	9.316	15.837	235.697	0.821	47.515	-0.000	-0.000	235.791	4.573	236.791	1.945	11.496	68.405	38.395	-0.249	2.368	113.062	0.000	0.000	7.771	77.711	77.711
1.100	3.609	-1.100	-3.609	67.522	0.378	11.610	0.560	8	6	8	7	8	120.915	0.211	0.211	0.000	0.000	1.700	16.172	27.492	12.183	20.711	318.440	0.562	67.311	0.005	0.005	316.725	6.434	317.725	1.727	6.625	77.677	40.054	-0.240	2.087	140.964	0.000	0.000	10.997	109.967	109.967
1.150	3.773	-1.150	-3.773	68.001	0.445	0.140	0.654	8	6	8	7	8	120.915	0.221	0.221	0.000	0.000	1.700	16.286	27.687	12.427	21.126	306.287	0.657	67.780	0.000	0.000	306.267	6.514	307.267	1.763	7.352	77.222	40.088	-0.251	2.082	141.658	0.000	0.000	11.075	110.746	110.746
1.200	3.937	-1.200	-3.937	69.544	1.873	5.370	2.693	6	8	8	7	8	114.551	0.231	0.231	0.000	0.000	1.700	26.649	45.303	0.000	0.000	300.120	2.702	69.313	0.002	0.002	299.394	6.646	300.394	2.176	0.000	77.253	40.195	-0.446	2.068	143.897	0.000	0.000	11.326	113.259	113.259
1.250	4.101	-1.250	-4.101	71.312	2.685	19.470	3.765	5	8	8	7	8	114.551	0.240	0.240	0.000	0.000	1.700	34.158	58.069	0.000	0.000	295.706	3.778	71.071	0.009	0.009	293.177	6.773	294.177	2.281	0.000	77.401	40.315	-0.559	2.053	146.459	0.000	0.000	11.614	116.138	116.138
1.300	4.265	-1.300	-4.265	253.246	1.822	8.930	0.719	9	0	10	0	0	124.097	0.250	0.250	0.000	0.000	1.700	48.522	82.487	0.000	0.000	1011.455	0.720	252.996	0.001	0.001	1010.340	24.234	1011.340	1.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	41.244	412.436	412.436
1.350	4.429	-1.350	-4.429	196.185	2.344	0.790	1.195	9	6	9	7	8	124.097	0.260	0.260	0.000	0.000	1.700	37.589	63.901	34.104	57.977	752.665	1.196	195.925	0.000	0.000	752.570	18.792	753.570	1.618	4.654	0.000	45.149	-0.400	0.000	0.000	0.000	0.000	31.951	319.507	319.507
1.400	4.593	-1.400	-4.593	76.668	2.042	-0.340	2.663	6	8	8	7	8	114.551	0.270	0.270	0.000	0.000	1.700	29.379	49.945	0.000	0.000	282.856	2.673	76.398	-0.000	-0.000	282.896	7.346	283.896	2.145	0.000	77.805	40.661	-0.436	2.010	154.177	0.000	0.000	12.486	124.861	124.861
1.450	4.757	-1.450	-4.757	38.640	0.950	0.070	2.459	6	5	8	6	8	114.551	0.280	0.280	0.000	0.000	1.700	14.807	25.172	8.799	14.958	137.254	2.476	38.361	0.000	0.000	137.246	3.702	138.246	2.323	23.390	57.675	37.387	-0.334	2.616	101.108	0.000	0.000	6.293	62.930	62.930
1.500	4.921	-1.500	-4.921	24.987	0.279	-0.530	1.117	6	6	7	6	5	114.551	0.289	0.289	0.000	0.000	1.700	9.575	16.277	5.523	9.388	85.494	1.130	24.698	-0.001	-0.001	85.551	2.395	86.551	2.254	20.865	44.705	35.305	-0.184	3.262	81.537	0.000	0.000	4.069	40.693	40.693
1.550	5.085	-1.550	-5.085	2.940	0.059	-0.010	2.007	1	3	3	4	3	111.369	0.298	0.298	0.000	0.000	1.700	1.408	2.394	0.935	2.943	8.861	2.233	2.642	-0.000	-0.000	8.862	0.282	9.862	2.971	56.529	0.000	0.000	0.000	0.000	0.000	0.176	0.000	2.154	0.479	4.788	8.861
1.600	5.249	-1.600	-5.249	2.229	0.053	-0.130	2.378	3	3	0	4	3	111.369	0.307	0.307	0.000	0.000	1.700	2.136	3.630	0.796	2.330	6.255	2.758	1.922	-0.002	-0.002	6.268	0.214	7.268	3.147	68.980	0.000	0.000	0.000	0.000	0.000	0.128	0.000	1.403	0.363	3.630	6.255
1.650	5.413	-1.650	-5.413	2.880	0.043	-0.080	1.493	1	3	3	4	4	111.369	0.317	0.317	0.000	0.000	1.700	1.379	2.345	0.900	2.642	8.100	1.678	2.563	-0.001	-0.001	8.108	0.276	9.108	2.941	54.585	0.000	0.000	0.000	0.000	0.000	0.171	0.000	1.917	0.469	4.690	8.100
1.700	5.577	-1.700	-5.577	2.970	0.074	-0.000	2.492	3	3	3	4	3	111.369	0.326	0.326	0.000	0.000	1.700	2.845	4.837	0.997	2.845	8.123	2.798	2.644	-0.000	-0.000	8.123	0.285	9.123	3.055	62.273	0.000	0.000	0.000	0.000	0.000	0.176	0.000	1.924	0.484	4.837	8.123
1.750	5.741	-1.750	-5.741	5.731	0.160	0.110	2.792	3	4	5	5	3	111.369	0.335	0.335	0.000	0.000	1.700	5.490	9.333	1.674	4.916	16.123	2.965	5.396	0.001	0.001	16.113	0.549	17.113	2.825	47.467	0.000	28.270	-0.104	0.000	0.000	0.000	0.000	0.933	9.333	16.123
1.800	5.905	-1.800	-5.905	26.600	0.358	-0.060	1.346	6	5	7	6	5	114.551	0.344	0.344	0.000	0.000	1.700	10.193	17.328	5.943	10.103	76.337	1.364	26.256	-0.000	-0.000	76.342	2.548	77.342	2.280	21.769	43.998	35.604	-0.191	3.163	84.168	0.000	0.000	4.332	43.320	43.320
1.850	6.069	-1.850	-6.069	25.368	0.745	-0.340	2.937	5	5	7	6	4	114.551	0.353	0.353	0.000	0.000	1.700	12.151	20.657	6.297	10.704	70.794	2.978	25.015	-0.000	-0.000	70.825	2.431	71.825	2.511	31.189	42.253	35.377	-0.291	3.238	82.171	0.000	0.000	4.131	41.314	41.314
1.900	6.234	-1.900	-6.234	34.749	0.569	-0.230	1.637	6	5	7	6	5	114.551	0.363	0.363	0.000	0.000	1.696	13.316	22.588	7.637	12.955	94.796	1.655	34.386	-0.000	-0.000	94.816	3.330	95.816	2.241	20.398	50.896	36.870	-0.234	2.763	96.049	0.000	0.000	5.647	56.471	56.471
1.950	6.398	-1.950	-6.398	83.170	0.429	0.010	0.516	8	6	9	7	6	120.915	0.373	0.373	0.000	0.000	1.674	19.919	33.350	14.556	24.370	222.341	0.518	82.798	0.000	0.000	222.340	7.968	223.340	1.638	4.994	75.535	40.977	-0.201	1.973	164.126	0.000	0.000	13.340	133.398	133.398
2.000	6.562	-2.000	-6.562	44.837	0.152	-0.430	0.339	8	6	8	6	6	120.915	0.382	0.382	0.000	0.000	1.652	10.739	17.744	8.260	13.649	116.281	0.342	44.455	-0.000	-0.000	116.316	4.297	117.316	1.786	5.000	57.449	37.962	-0.109	2.468	110.682	0.000	0.000	7.098	70.977	70.977
2.050	6.726	-2.050	-6.726	15.509	0.141	1.380	0.909	6	5	6	6	5	114.551	0.392	0.392	0.000	0.000	1.632	5.943	9.698	3.656	5.967	38.567	0.933	15.117	0.003	0.003	38.457	1.482	39.457	2.401	26.447	0.000	32.831	-0.091	0.000	0.000	0.000	0.000	2.425	24.246	24.246

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
96	2.100	6.890	-2.100	-6.890	10.467	0.156	-0.550	1.490	5	5	6	5	5	114.551	0.402	0.402	0.000	0.000	1.613	5.013	8.085	2.777	4.720	25.078	1.550	10.065	-0.002	-0.002	25.121	1.004	26.121	2.646	37.629	0.000	30.896	-0.092	0.000	0.000	0.000	0.000	0.000	1.617	16.170	17.046
97	2.150	7.054	-2.150	-7.054	6.420	0.119	1.650	1.853	4	4	5	5	4	114.551	0.411	0.411	0.000	0.000	1.594	4.100	6.537	1.808	4.301	14.631	1.980	6.010	0.008	0.009	14.505	0.610	15.505	2.759	43.669	0.000	28.506	-0.055	0.000	0.000	0.000	0.000	0.000	0.981	9.805	14.631
98	2.200	7.218	-2.200	-7.218	4.206	0.086	13.740	2.045	3	3	3	4	3	111.369	0.420	0.420	0.000	0.000	1.576	4.029	6.352	1.336	2.989	9.013	2.272	3.786	0.102	0.113	7.992	0.362	8.992	2.968	56.373	0.000	0.000	0.000	0.000	0.000	0.000	0.252	0.054	2.203	0.635	6.352	9.013
99	2.250	7.382	-2.250	-7.382	4.615	0.070	18.500	1.517	1	4	3	4	4	111.369	0.429	0.429	0.000	0.000	1.560	2.211	3.448	1.383	3.052	9.755	1.672	4.186	0.125	0.138	8.409	0.387	9.409	2.870	50.150	0.000	26.825	0.015	0.000	0.000	0.000	0.000	0.000	0.690	6.896	9.755
100	2.300	7.546	-2.300	-7.546	4.435	0.063	21.700	1.420	1	4	3	3	4	111.369	0.438	0.438	0.000	0.000	1.543	2.125	3.279	1.339	2.874	9.120	1.576	3.997	0.153	0.169	7.575	0.360	8.575	2.883	50.921	0.000	26.584	0.029	0.000	0.000	0.000	0.000	0.000	0.656	6.558	9.120
101	2.350	7.710	-2.350	-7.710	4.348	0.062	25.360	1.426	1	4	3	3	4	111.369	0.448	0.448	0.000	0.000	1.527	2.083	3.181	1.327	2.778	8.719	1.589	3.901	0.182	0.203	6.950	0.341	7.950	2.901	52.088	0.000	26.440	0.037	0.000	0.000	0.000	0.000	0.000	0.636	6.363	8.719
102	2.400	7.874	-2.400	-7.874	4.864	0.058	29.430	1.193	1	4	3	3	4	111.369	0.457	0.457	0.000	0.000	1.512	2.330	3.523	1.419	2.940	9.653	1.316	4.407	0.189	0.208	7.641	0.378	8.641	2.823	47.345	0.000	26.927	0.039	0.000	0.000	0.000	0.000	0.000	0.705	7.045	9.653
103	2.450	8.038	-2.450	-8.038	5.220	0.066	33.620	1.264	1	4	3	3	4	111.369	0.466	0.466	0.000	0.000	1.497	2.500	3.743	1.514	3.092	10.209	1.388	4.754	0.201	0.221	7.956	0.400	8.956	2.813	46.747	0.000	27.217	0.032	0.000	0.000	0.000	0.000	0.000	0.749	7.487	10.209
104	2.500	8.202	-2.500	-8.202	5.013	0.073	27.760	1.456	1	4	3	3	4	111.369	0.475	0.475	0.000	0.000	1.483	2.401	3.561	1.502	2.989	9.558	1.608	4.538	0.173	0.191	7.733	0.397	8.733	2.869	50.103	0.000	26.978	0.026	0.000	0.000	0.000	0.000	0.000	0.712	7.121	9.558
105	2.550	8.366	-2.550	-8.366	4.838	0.074	36.550	1.530	1	4	3	3	3	111.369	0.484	0.484	0.000	0.000	1.469	2.317	3.404	1.479	2.871	8.997	1.700	4.354	0.236	0.262	6.640	0.354	7.640	2.904	52.246	0.000	26.763	0.038	0.000	0.000	0.000	0.000	0.000	0.681	6.807	8.997
106	2.600	8.530	-2.600	-8.530	4.773	0.071	40.510	1.488	1	4	3	3	3	111.369	0.493	0.493	0.000	0.000	1.455	2.286	3.326	1.466	2.783	8.680	1.659	4.280	0.265	0.295	6.115	0.336	7.115	2.912	52.770	0.000	26.653	0.048	0.000	0.000	0.000	0.000	0.000	0.665	6.653	8.680
107	2.650	8.694	-2.650	-8.694	4.480	0.065	43.210	1.451	1	3	3	3	3	111.369	0.502	0.502	0.000	0.000	1.442	2.146	3.094	1.402	2.588	7.920	1.634	3.978	0.301	0.339	5.234	0.300	6.234	2.944	54.776	0.000	0.000	0.000	0.000	0.000	0.000	0.265	0.169	1.863	0.619	6.187	7.920
108	2.700	8.858	-2.700	-8.858	4.555	0.061	47.270	1.339	1	4	3	3	3	111.369	0.512	0.512	0.000	0.000	1.429	2.182	3.117	1.412	2.559	7.908	1.509	4.044	0.324	0.365	5.023	0.295	6.023	2.928	53.738	0.000	26.343	0.073	0.000	0.000	0.000	0.000	0.000	0.623	6.235	7.908
109	2.750	9.022	-2.750	-9.022	4.296	0.057	50.670	1.327	1	3	3	3	3	111.369	0.521	0.521	0.000	0.000	1.416	2.058	2.914	1.359	2.395	7.254	1.510	3.776	0.368	0.419	4.216	0.260	5.216	2.961	55.876	0.000	0.000	0.000	0.000	0.000	0.000	0.252	0.198	1.670	0.583	5.829	7.254
110	2.800	9.186	-2.800	-9.186	4.601	0.060	49.740	1.304	1	4	3	3	3	111.369	0.530	0.530	0.000	0.000	1.404	2.204	3.094	1.431	2.496	7.686	1.474	4.071	0.337	0.381	4.755	0.292	5.755	2.934	54.125	0.000	26.307	0.080	0.000	0.000	0.000	0.000	0.000	0.619	6.187	7.686
111	2.850	9.350	-2.850	-9.350	5.777	0.092	38.010	1.592	4	4	3	3	4	114.551	0.539	0.539	0.000	0.000	1.392	3.690	5.135	1.744	3.062	9.721	1.756	5.238	0.205	0.226	7.519	0.440	8.519	2.882	50.891	0.000	27.353	0.023	0.000	0.000	0.000	0.000	0.000	0.770	7.703	9.721
112	2.900	9.514	-2.900	-9.514	5.747	0.125	4.270	2.175	4	3	4	4	3	114.551	0.549	0.549	0.000	0.000	1.380	3.670	5.064	1.820	3.134	9.481	2.405	5.198	0.023	0.026	9.238	0.538	10.238	2.963	56.023	0.000	0.000	0.000	0.000	0.000	0.000	0.347	0.017	2.358	0.760	7.596	9.481
113	2.950	9.678	-2.950	-9.678	4.767	0.138	2.740	2.895	3	3	4	4	3	111.369	0.558	0.558	0.000	0.000	1.368	4.567	6.249	1.669	2.760	7.550	3.278	4.210	0.018	0.020	7.397	0.448	8.397	3.119	66.900	0.000	0.000	0.000	0.000	0.000	0.000	0.281	0.011	1.754	0.625	6.249	7.550
114	3.000	9.842	-3.000	-9.842	4.147	0.111	13.920	2.677	3	3	3	3	3	111.369	0.567	0.567	0.000	0.000	1.357	3.973	5.392	1.504	2.393	6.318	3.100	3.580	0.105	0.121	5.551	0.356	6.551	3.171	70.755	0.000	0.000	0.000	0.000	0.000	0.000	0.239	0.054	1.419	0.539	5.392	6.318
115	3.050	10.006	-3.050	-10.006	3.892	0.087	22.700	2.236	3	3	3	3	3	111.369	0.576	0.576	0.000	0.000	1.346	3.728	5.020	1.408	2.174	5.759	2.624	3.316	0.182	0.214	4.528	0.305	5.528	3.167	70.438	0.000	0.000	0.000	0.000	0.000	0.000	0.221	0.089	1.280	0.502	5.020	5.759
116	3.100	10.170	-3.100	-10.170	3.833	0.077	29.350	2.009	1	3	3	3	3	111.369	0.585	0.585	0.000	0.000	1.336	1.836	2.453	1.378	2.084	5.553	2.370	3.248	0.239	0.282	3.987	0.279	4.987	3.158	69.757	0.000	0.000	0.000	0.000	0.000	0.000	0.217	0.115	1.231	0.491	4.906	5.553
117	3.150	10.335	-3.150	-10.335	3.925	0.076	28.040	1.936	1	3	3	3	3	111.369	0.594	0.594	0.000	0.000	1.326	1.880	2.492	1.399	2.087	5.607	2.282	3.331	0.223	0.263	4.134	0.292	5.134	3.146	68.856	0.000	0.000	0.000	0.000	0.000	0.000	0.222	0.109	1.244	0.498	4.984	5.607
118	3.200	10.499	-3.200	-10.499	3.817	0.083	28.330	2.175	3	3	3	3	3	111.369	0.603	0.603	0.000	0.000	1.315	3.657	4.810	1.406	2.048	5.328	2.583	3.214	0.232	0.275	3.862	0.281	4.862	3.192	72.393	0.000	0.000	0.000	0.000	0.000	0.000	0.214	0.111	1.179	0.481	4.810	5.328
119	3.250	10.663	-3.250	-10.663	3.897	0.097	30.000	2.489	3	3	3	3	3	111.369	0.613	0.613	0.000	0.000	1.306	3.734	4.875	1.464	2.103	5.365	2.953	3.285	0.240	0.285	3.835	0.284	4.835	3.220	74.549	0.000	0.000	0.000	0.000	0.000	0.000	0.219	0.117	1.187	0.487	4.875	5.365
120	3.300	10.827	-3.300	-10.827	3.912	0.116	32.390	2.965	3	3	3	3	3	111.369	0.622	0.622	0.000	0.000	1.296	3.748	4.857	1.520	2.147	5.295	3.525	3.291	0.258	0.307	3.668	0.278	4.668	3.266	78.225	0.000	0.000	0.000	0.000	0.000	0.000	0.219	0.126	1.172	0.486	4.857	5.295
121	3.350	10.991	-3.350	-10.991	4.037	0.123	21.990	3.047	3	3	3	3	3	111.369	0.631	0.631	0.000	0.000	1.287	3.868	4.976	1.567	2.188	5.402	3.611	3.407	0.170	0.201	4.314	0.321	5.314	3.264	78.090	0.000	0.000	0.000	0.000	0.000	0.000	0.227	0.086	1.196	0.498	4.976	5.402
122	3.400	11.155	-3.400	-11.155	3.640	0.122	20.880	3.351	3	3	3	3	2	111.369	0.640	0.640	0.000	0.000	1.277	3.487	4.455	1.502	2.020	4.690	4.066	3.001	0.179	0.217	3.672	0.286	4.672	3.344	84.750	0.000	0.000	0.000	0.000	0.000	0.000	0.200	0.082	1.039	0.445	4.455	4.690
123	3.450	11.319	-3.450	-11.319	3.630	0.110	25.680	3.030	3	3	3	3	2	111.369	0.649	0.649	0.000	0.000	1.268	3.478	4.411	1.480	1.955	4.595	3.689	2.981	0.221	0.269	3.359	0.271	4.359	3.328	83.437	0.000	0.000	0.000	0.000	0.000	0.000	0.199	0.100	1.019	0.441	4.411	4.595
124	3.500	11.483	-3.500	-11.483	3.724	0.121	29.470	3.249	3	3	3	3	2	111.369	0.658	0.658	0.000	0.000	1.260	3.568	4.493	1.531	1.999	4.659	3.947	3.066	0.247	0.300	3.261	0.269	4.261	3.339	84.351	0.000	0.000	0.000	0.000	0.000	0.000	0.204	0.115	1.033	0.449	4.493	4.659
125	3.550	11.647	-3.550	-11.647	5.743	0.151	32.460	2.629	4	3	3	3	3	114.551	0.668	0.668	0.000	0.000	1.251	3.668	4.587	1.976	2.732	7.606	2.975	5.075	0.176	0.200	6.088	0.453	7.088	3.094	65.011	0.000	0.000	0.000	0.000	0.000	0.000	0.338	0.127	1.771	0.688	6.881	7.606
126	3.600	11.811	-3.600	-11.811	5.619	0.182	22.260	3.239	3	3	4	3	3	111.369	0.677	0.677	0.000	0.000	1.242	5.383	6.686	2.023	2.745	7.305	3.682	4.942	0.124	0.141	6.278	0.472	7.278	3.160	69.897	0.000	0.000	0.000	0.000	0.000	0.000	0.330	0.087	1.685	0.669	6.686	7.305
127	3.650	11.975	-3.650	-11.975	5.783	0.190	18.120	3.285	3	3	4	3	3	111.369	0.686	0.686	0.000	0.000	1.234	5.540	6.836	2.077	2.787	7.434	3.727	5.097	0.098	0.111	6.609	0.500	7.609	3.156	69.650	0.000	0.000	0.000	0.000	0.000	0.000	0.340	0.071	1.721	0.684	6.836	7.434
128	3.700	12.139	-3.700	-12.139	5.880	0.192	23.970	3.266	3	3	4	3	3	111.369	0.695	0.695	0.000	0.000	1.226	5.633	6.904	2.107	2.792	7.462	3.703	5.185	0.127	0.144	6.385	0.492	7.385	3.153	69.427	0.000	0.000	0.000	0.000	0.000	0.000	0.346	0.094	1.729	0.690	6.904	7.462
129	3.750	12.303	-3.750	-12.303	6.206	0.183	29.850	2.949	3	3	4	3	3	111.369	0.704	0.704	0.000	0.000	1.218	5.946	7.240	2.160	2.840	7.817	3.326	5.502	0.150	0.169	6.493	0.505	7.493	3.110	66.240	0.000	0.000	0.000	0.000	0.000	0.000	0.367	0.117	1.832	0.724	7.240	7.817
130	3.800	12.467	-3.800	-12.467	7.133	0.221	35.740	3.098	3	3	4	3	3	111.369	0.713	0.713	0.000	0.000	1.210	6.834	8.268	2.414	3.181	9.003	3.442	6.420	0.156	0.174	7.439	0.576	8.439	3.068	63.208	0.000	0.000	0.000	0.000	0.000	0.000	0.428	0.140	2.200	0.827	8.268	9.003
131	3.850	12.631	-3.850	-12.631	17.407	0.252	76.460	1.448	6	5	5	5	5	114.551	0.723	0.723	0.000	0.000	1.202	6.670	8.019	4.468	5.371	23.099	1.510	16.685	0.137	0.143	19.795	1.439	20.795	2.580	34.399	0.000	31.922	-0.066	0.000	0.000	0.000	0.000	0.000	2.005	20.047	20.047
132	3.900	12.795	-3.900	-12.795	28.373	0.315	167.120	1.110	7	5	5	5	5	117.733	0.732	0.732	0.000	0.000	1.194	9.061	10.821	6.503	7.767	37.769	1.140	27.641	0.184	0.189	30.641	2.218	31.641	2.338	23.956	35.026	34.225	-0.086	3.621	102.770	0.000	0.000	0.000	3.246	32.462	32.462
133	3.950	12.959	-3.950	-12.959	22.660	0.397	48.050	1.752	6	5	6	5	5	114.551	0.742	0.742	0.000	0.000	1.187	8.683	10.303	5.688	6.749	29.564	1.811	21.919	0.066	0.068	27.541	2.027	28.541	2.535	32.254	0.000	33.120	-0.115	0.000	0.000	0.000	0.000	0.000	2.576	25.758	25.758
134	4.000	13.123	-4.000	-13.123	17.263	0.533	26.130	3.088	5	4	6	5	4	114.551	0.751	0.747	0.004	0.125	1.182	8.269	9.776	4.811	6.432	22.108	3.228	16.512	0.047	0.049	21.021	1.576	22.021	2.740	42.607	0.000	31.803	-0.149	0.000	0.000	0.000	0.000	0.000	1.955	19.551	22.108
135	4.050	13.287	-4.050	-13.287	13.218	0.572	38.170	4.327	3	3	5	4	3	111.369	0.760	0.751	0.009	0.289	1.179	12.663	14.929	4.112	5.387	16.588	4.591	12.458	0.089	0.095	15.014	1.152	16.014	2.933	54.112	0.000	0.000	0.000	0.000	0.000	0.000	0.831	0.148	5.305	1.493	14.929	16.588
136	4.100	13.451	-4.100	-13.451	10.397	0.554	26.720	5.329	3	3	5	4	3	111.369	0.769	0.755	0.014	0.453	1.176	9.960	11.711	3.556	4.552	12.751	5.754	9.628	0.079	0.085	11.665	0.916	12.665	3.084	64.323	0.000	0.000	0.000	0.000	0.000	0.000	0.642	0.103	3.579	1.171	11.711	12.751
137	4.150	13.615	-4.150	-13.615	9.371	0.536	32.200	5.720	3	3	4	4	3	111.369	0.779	0.759	0.019	0.617	1.173	8.977	10.528	3.342	4.214	11.320	6.238	8.593	0.105	0.115	10.021	0.801	11.021	3.146	68.879	0.000	0.000	0.000	0.000	0.000	0.000	0.573	0.123	3.015	1.053	10.528	11.320
138	4.200	13.779	-4.200	-13.779	8.168	0.390	38.110	4.775	3	3	4	4	3	111.369	0.788	0.763	0.024	0.781	1.170	7.825	9.152	2.929	3.620	9.672	5.284	7.380	0.143	0.158	8.145	0.669	9.145	3.154	69.472	0.000	0.000	0.000	0.000	0.000	0.000	0.492	0.146	2.422	0.915	9.152	9.672
139	4.250	13.943	-4.250	-13.943	8.462	0.299	48.350	3.534	3	3	4	3	3	111.369	0.797	0.767	0.030	0.945	1.167	8.106	9.456	2.854	3.519	9.993	3.901	7.665	0.175	0.193	8.064	0.666	9.064	3.063	62.838	0.000	0.000	0.000	0.000	0.000	0.000	0.511	0.185	2.533	0.946	9.456	9.993
140	4.300	14.107	-4.300	-14.107	12.578	0.316	70.110	2.512	5	4	4	4	3	114.551	0.806	0.772	0.035	1.110	1.163	6.025	7.009	3.661	4.638	15.264	2.684	11.772	0.171	0.183	12.471	0.995	13.471	2.819	47.091	0.000	30.214	-0.063	0.000	0.000	0.000	0.000	0.000	1.402	14.018	15.264
141	4.350	14.271	-4.350	-14.271	32.778	0.311	9.290	0.949	7	5	7	6	5	117.733	0.816	0.776	0.040	1.274	1.160	10.467	12.143	7.259	8.420	41.208	0.973	31.963	0.008	0.008	40.885	3.112	41.885	2.259	21.025	38.330	34.776	-0.100	3.438	112.740	0.000	0.000	0.000	3.643	36.428	36.428
142	4.400	14.436	-4.400	-14.436	49.739	0.251	-9.830	0.505	8	6	8	6	6	120.915	0.825	0.781	0.045	1.438	1.157	11.912	13.778	9.779	11.311	62.685	0.513	48.913	-0.007	-0.007	63.136	4.794	64.136	1.963	11.972	50.198	36.754	-0.088	2.798	139.213	0.000	0.000	0.000	5.511	55.112	55.112
143	4.450	14.600	-4.450	-14.600	46.583	0.184	-10.660	0.395	8	6	8	6	6	120.915	0.835	0.785	0.050	1.602	1.153	11.157	12.864	9.087	10.478	58.271	0.402	45.748	-0.008	-0.008	58.758	4.495	59.758	1.942	5.000	48.231	36.426	-0.062	2.899	135.087	0.000	0.000	0.000	5.146	51.458	51.458
144	4.500	14.764	-4.500	-14.764	47.098	0.191	-6.680	0.406	8	6	8	6	6	120.915	0.845	0.790	0.055	1.766	1.150	11.280	12.967	9.193	10.568	58.556	0.413	46.253	-0.006	-0.006	58.890	4.532	59.890	1.944	5.000	48.459	36.464	-0.065	2.888	136.075	0.000	0.000	0.000	5.187	51.868	51.868
145	4.550	14.928	-4.550	-14.928	49.385	0.229	-5.670	0.464	8	6	8	6	6	120.915	0.855	0.795	0.060	1.930	1.146	11.828	13.555	9.671	11.083	61.067	0.472	48.530	-0.005	-0.005	61.366	4.748	62.366	1.952	5.000	49.731	36.676	-0.079	2.824	139.514	0.000	0.000	0.000	5.422	54.222	54.222
146	4.600	15.092	-4.600	-15.092	50.916	0.267	-5.440	0.524	8	6	8	6	6	120.915	0.865	0.800	0.065	2.094	1.143	12.194	13.934	10.025	11.455	62.604	0.533	50.051	-0.005	-0.005	62.898	4.894	63.898	1.967	12.070	50.520	36.807	-0.091	2.785	141.876	0.000	0.000	0.000	5.574	55.735	55.735
147	4.650	15.256	-4.650	-15.256	52.489	0.313	-5.030	0.596	8	6	8	6	6	120.915	0.875	0.805	0.070	2.259	1.139	12.571	14.321	10.402	11.851	64.173	0.606	51.614	-0.004	-0.004	64.456	5.043	65.456	1.984	12.521	51.306	36.938	-0.104	2.748	144.275	0.000	0.000	0.000	5.729	57.285	57.285
148	4.700	15.420	-4.700	-15.420	55.515	0.367	-3.990	0.661	8	6	8	6	6	120.915	0.885	0.809	0.076	2.423	1.136	13.296	15.102	11.016	12.512	67.521	0.672	54.630	-0.004	-0.004	67.769	5.330	68.769	1.987	12.606	52.828	37.192	-0.117	2.675	148.592	0.000	0.000	0.000	6.041	60.408	60.408
149	4.750	15.584	-4.750	-15.584	61.186	0.391	-2.290	0.639	8	6	8	6	6	120.915	0.895	0.814	0.081	2.587	1.132	14.654	16.596	11.945	13.528	74.079	0.649	60.291	-0.002	-0.003	74.266	5.868	75.266	1.944	11.491	55.531	37.643	-0.122	2.554	156.344	0.000	0.000	0.000	6.638	66.382	66.382
150	4.800	15.748	-4.800	-15.748	70.005	0.429	-0.760	0.613	8	6	8	6	6	120.915	0.905	0.819	0.086	2.751	1.129	16.766	18.932	13.372	15.100	84.405	0.621	69.101	-0.002	-0.002	84.539	6.709	85.539	1.886	10.055	59.306	38.272	-0.130	2.403	168.284	0.000	0.000	0.000	7.573	75.728	75.728
151	4.850	15.912	-4.850	-15.912	71.504	0.444	0.640	0.621	8	6	8	6	6	120.915	0.915	0.824	0.091	2.915	1.126	17.125	19.281	13.640	15.357	85.722	0.629	70.590	-0.001	-0.001	85.808	6.848	86.808	1.882	9.969	59.830	38.359	-0.132	2.385	170.578	0.000	0.000	0.000	7.712	77.124	77.124
152	4.900	16.076	-4.900	-16.076	62.376	0.459	0.990	0.736	8	6	8	6	6	120.915	0.925	0.829	0.096	3.079	1.123	14.939	16.771	12.314	13.824	74.193	0.747	61.452	-0.001	-0.001	74.272	5.973	75.272	1.974	12.251	55.832	37.693	-0.134	2.544	158.766	0.000	0.000	0.000	6.708	67.083	67.083
153	4.950	16.240	-4.950	-16.240	53.192	0.394	0.380	0.741	8	6	8	6	6	120.915	0.935	0.833	0.101	3.243	1.119	12.740	14.260	10.752	12.035	62.730	0.754	52.258	-0.002	-0.002	62.837	5.095	63.837	2.035	13.915	51.184	36.918	-0.119	2.760	146.867	0.000	0.000	0.000	5.704	57.042	57.042
154	5.000	16.404	-5.000	-16.404	45.149	0.419	1.420	0.928	7	5	8	6	5	117.733	0.944	0.838	0.106	3.408	1.116	14.418	16.094	9.554	10.665	52.767	0.948	44.205	-0.001	-0.001	52.841	4.321	53.841	2.150	17.362	46.405	36.122	-0.122	3.007	135.831	0.000	0.000	0.000	4.828	48.281	48.281
155	5.050	16.568	-5.050	-16.568	33.236	0.395	5.710	1.188	7	5	7	6	5	117.733	0.954	0.843	0.111	3.572	1.113	10.613	11.815	7.569	8.426	38.327	1.224	32.282	0.002	0.002	38.248	3.167	39.248	2.323	23.397	37.546	34.645	-0.113	3.497	116.273	0.000	0.000	0.000	3.545	35.446	35.446
156	5.100	16.732	-5.100	-16.732	33.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
191	6.850	22.473	-6.850	-22.473	102.790	1.216	-6.430	1.183	8	6	9	6	5	120.915	1.311	1.015	0.296	9.481	1.014	24.618	24.974	20.199	20.492	100.050	1.198	101.480	-0.005	-0.005	100.540	9.866	101.540	1.962	11.936	67.246	39.595	-0.205	2.195	225.681	0.000	0.000	0.000	9.990	99.897	99.897
192	6.900	22.638	-6.900	-22.638	72.050	1.207	-6.380	1.675	7	5	8	6	5	117.733	1.320	1.019	0.301	9.645	1.012	23.008	23.287	15.435	15.622	69.415	1.706	70.730	-0.007	-0.007	69.905	6.921	70.905	2.180	18.325	56.995	37.887	-0.206	2.535	182.739	0.000	0.000	0.000	6.986	69.862	69.862
193	6.950	22.802	-6.950	-22.802	52.542	1.969	0.330	3.747	5	4	8	6	4	114.551	1.330	1.024	0.306	9.809	1.010	25.168	25.418	13.119	13.250	50.044	3.845	51.213	-0.006	-0.006	50.333	5.033	51.333	2.524	31.750	47.883	36.368	-0.307	2.972	156.202	0.000	0.000	0.000	5.084	50.837	50.837
194	7.000	22.966	-7.000	-22.966	60.154	1.778	42.250	2.956	6	5	8	6	4	114.551	1.339	1.028	0.311	9.973	1.008	23.051	23.232	14.232	14.344	57.234	3.023	58.815	0.017	0.017	56.253	5.636	57.253	2.409	26.767	51.701	37.004	-0.265	2.778	167.149	0.000	0.000	0.000	5.808	58.080	58.080
195	7.050	23.130	-7.050	-23.130	87.449	1.455	79.950	1.664	7	5	8	6	5	117.733	1.349	1.032	0.316	10.137	1.006	27.925	28.085	18.259	18.363	83.428	1.690	86.101	0.025	0.025	81.316	8.139	82.316	2.117	16.326	62.364	38.781	-0.221	2.339	204.632	0.000	0.000	0.000	8.425	84.254	84.254
196	7.100	23.294	-7.100	-23.294	83.518	1.202	1.340	1.439	7	5	9	6	5	117.733	1.358	1.037	0.321	10.301	1.003	26.670	26.764	17.253	17.313	79.262	1.463	82.160	-0.003	-0.003	79.531	7.997	80.531	2.090	15.517	60.983	38.551	-0.203	2.387	199.401	0.000	0.000	0.000	8.029	80.291	80.291
197	7.150	23.458	-7.150	-23.458	59.839	0.715	-4.980	1.195	7	5	8	6	5	117.733	1.368	1.042	0.327	10.465	1.001	19.109	19.134	12.680	12.697	56.163	1.223	58.471	-0.008	-0.008	56.625	5.747	57.625	2.153	17.468	51.364	36.948	-0.151	2.797	167.446	0.000	0.000	0.000	5.740	57.401	57.401
198	7.200	23.622	-7.200	-23.622	42.501	0.601	3.370	1.414	7	5	8	6	5	117.733	1.378	1.046	0.332	10.630	0.999	13.572	13.560	9.662	9.653	39.329	1.461	41.124	-0.005	-0.006	39.545	4.062	40.545	2.319	23.246	41.495	35.303	-0.132	3.328	141.483	0.000	0.000	0.000	4.068	40.681	40.681
199	7.250	23.786	-7.250	-23.786	37.241	0.557	49.860	1.496	7	5	7	5	5	117.733	1.387	1.051	0.337	10.794	0.997	11.892	11.856	8.705	8.679	34.141	1.554	35.854	0.033	0.034	32.980	3.419	33.980	2.382	25.684	37.646	34.662	-0.120	3.546	132.094	0.000	0.000	0.000	3.557	35.569	35.569
200	7.300	23.950	-7.300	-23.950	36.282	0.807	133.340	2.224	6	4	6	5	4	114.551	1.397	1.055	0.342	10.958	0.995	13.903	13.832	8.948	8.902	33.080	2.313	34.886	0.105	0.110	29.458	3.077	30.458	2.498	30.586	36.839	34.527	-0.148	3.592	130.383	0.000	0.000	0.000	3.458	34.581	34.581
201	7.350	24.114	-7.350	-24.114	34.728	1.270	60.530	3.657	5	4	7	5	3	114.551	1.406	1.059	0.347	11.122	0.993	16.635	16.516	9.333	8.828	31.470	3.811	33.322	0.044	0.046	30.013	3.146	31.013	2.671	38.920	35.526	34.308	-0.229	3.667	127.391	0.000	0.000	0.000	3.303	33.033	31.470
202	7.400	24.278	-7.400	-24.278	36.530	1.362	59.270	3.728	5	4	7	5	3	114.551	1.416	1.064	0.352	11.286	0.991	17.498	17.338	9.765	9.216	33.030	3.879	35.115	0.041	0.043	31.621	3.322	32.621	2.660	38.388	36.918	34.540	-0.241	3.590	131.192	0.000	0.000	0.000	3.468	34.677	33.030
203	7.450	24.442	-7.450	-24.442	42.537	1.522	93.960	3.578	5	4	7	5	4	114.551	1.425	1.068	0.357	11.450	0.989	20.375	20.149	10.938	10.816	38.516	3.702	41.112	0.061	0.063	36.103	3.794	37.103	2.584	34.569	41.224	35.258	-0.249	3.348	142.481	0.000	0.000	0.000	4.030	40.298	40.298
204	7.500	24.606	-7.500	-24.606	53.990	1.542	49.720	2.856	6	4	8	6	4	114.551	1.435	1.072	0.362	11.614	0.987	20.689	20.419	12.957	12.788	49.041	2.934	52.556	0.022	0.023	47.931	5.024	48.931	2.440	28.061	48.001	36.388	-0.239	2.977	160.770	0.000	0.000	0.000	5.105	51.047	51.047
205	7.550	24.770	-7.550	-24.770	69.788	1.380	1.280	1.977	7	5	8	6	5	117.733	1.444	1.077	0.368	11.779	0.985	22.286	21.949	15.383	15.151	63.512	2.019	68.344	-0.005	-0.005	63.816	6.682	64.816	2.248	20.643	55.299	37.604	-0.217	2.620	182.916	0.000	0.000	0.000	6.585	65.848	65.848
206	7.600	24.934	-7.600	-24.934	80.839	0.962	-6.530	1.190	8	5	9	6	5	120.915	1.454	1.081	0.373	11.943	0.983	19.361	19.027	16.467	16.183	73.454	1.212	79.386	-0.007	-0.007	73.988	7.764	74.988	2.055	14.479	59.451	38.296	-0.177	2.451	198.216	0.000	0.000	0.000	7.611	76.110	76.110
207	7.650	25.098	-7.650	-25.098	80.662	0.858	-9.360	1.064	8	6	9	6	5	120.915	1.464	1.086	0.378	12.107	0.981	19.318	18.944	16.246	15.930	72.957	1.083	79.198	-0.008	-0.008	73.574	7.755	74.574	2.026	13.658	59.324	38.275	-0.166	2.457	198.243	0.000	0.000	0.000	7.577	75.775	75.775
208	7.700	25.262	-7.700	-25.262	74.277	0.533	-8.500	0.718	8	6	8	6	6	120.915	1.474	1.091	0.383	12.271	0.978	17.789	17.406	14.562	14.248	66.771	0.732	72.804	-0.009	-0.009	67.366	7.141	68.366	1.956	11.776	56.897	37.870	-0.123	2.554	189.798	0.000	0.000	0.000	6.962	69.623	69.623
209	7.750	25.426	-7.750	-25.426	66.061	0.421	-6.320	0.637	8	6	8	6	6	120.915	1.484	1.096	0.388	12.435	0.976	15.822	15.446	13.033	12.724	58.967	0.652	64.578	-0.009	-0.009	59.502	6.347	60.502	1.972	12.205	53.474	37.300	-0.102	2.707	178.914	0.000	0.000	0.000	6.179	61.786	61.786
210	7.800	25.590	-7.800	-25.590	58.791	0.420	-3.120	0.714	8	6	8	6	5	120.915	1.494	1.100	0.393	12.599	0.974	14.080	13.717	11.919	11.611	52.092	0.733	57.298	-0.008	-0.009	52.537	5.641	53.537	2.043	14.133	50.070	36.732	-0.101	2.875	169.111	0.000	0.000	0.000	5.487	54.866	54.866
211	7.850	25.754	-7.850	-25.754	47.957	0.514	4.300	1.072	7	5	8	6	5	117.733	1.503	1.105	0.398	12.763	0.972	15.314	14.887	10.429	10.138	42.055	1.106	46.454	-0.006	-0.006	42.294	4.581	43.294	2.216	19.531	44.171	35.749	-0.114	3.192	153.161	0.000	0.000	0.000	4.466	44.661	44.661
212	7.900	25.918	-7.900	-25.918	40.223	1.256	16.480	3.123	5	4	8	6	4	114.551	1.513	1.109	0.403	12.928	0.970	19.267	18.692	10.265	9.958	34.906	3.245	38.711	0.003	0.003	34.805	3.804	35.805	2.568	33.836	39.073	34.900	-0.216	3.480	140.041	0.000	0.000	0.000	3.738	37.384	37.384
213	7.950	26.082	-7.950	-26.082	52.574	1.401	83.890	2.665	6	5	7	6	4	114.551	1.522	1.114	0.409	13.092	0.968	20.146	19.508	12.585	12.186	45.857	2.744	51.052	0.042	0.043	43.872	4.786	44.872	2.434	27.828	46.693	36.170	-0.217	3.056	160.739	0.000	0.000	0.000	4.877	48.769	48.769
214	8.000	26.246	-8.000	-26.246	58.228	1.899	30.050	3.261	6	4	8	6	4	114.551	1.532	1.118	0.414	13.256	0.966	22.313	21.564	14.127	13.653	50.732	3.349	56.697	0.009	0.009	50.263	5.488	51.263	2.463	29.059	49.566	36.648	-0.272	2.905	169.228	0.000	0.000	0.000	5.391	53.911	53.911
215	8.050	26.410	-8.050	-26.410	59.505	1.844	2.450	3.099	6	4	8	6	4	114.551	1.541	1.122	0.419	13.420	0.965	22.802	21.996	14.290	13.785	51.670	3.181	57.965	-0.006	-0.006	51.975	5.693	52.975	2.441	28.122	50.133	36.743	-0.265	2.877	171.265	0.000	0.000	0.000	5.499	54.989	54.989
216	8.100	26.574	-8.100	-26.574	58.166	1.683	-2.230	2.893	6	4	8	6	4	114.551	1.550	1.127	0.424	13.584	0.963	22.289	21.460	13.885	13.368	50.276	2.973	56.616	-0.008	-0.009	50.714	5.579	51.714	2.428	27.574	49.426	36.625	-0.249	2.914	169.581	0.000	0.000	0.000	5.365	53.649	53.649
217	8.150	26.739	-8.150	-26.739	87.018	2.038	-1.990	2.342	7	5	9	6	5	117.733	1.560	1.131	0.429	13.748	0.961	27.788	26.701	19.094	18.347	75.592	2.385	85.458	-0.006	-0.006	76.027	8.342	77.027	2.237	20.267	60.916	38.540	-0.260	2.408	209.603	0.000	0.000	0.000	8.010	80.104	80.104
218	8.200	26.903	-8.200	-26.903	83.378	2.441	2.860	2.928	6	5	9	6	4	114.551	1.570	1.135	0.434	13.912	0.959	31.950	30.642	18.967	18.190	72.084	2.984	81.809	-0.004	-0.004	72.387	7.979	73.387	2.321	23.306	59.636	38.327	-0.294	2.455	204.781	0.000	0.000	0.000	7.660	76.604	76.604
219	8.250	27.067	-8.250	-27.067	89.671	3.549	9.810	3.958	5	4	9	6	4	114.551	1.579	1.140	0.439	14.077	0.957	42.953	41.116	21.110	20.207	77.329	4.029	88.093	-0.001	-0.002	77.446	8.561	78.446	2.398	26.319	61.668	38.665	-0.388	2.384	213.821	0.000	0.000	0.000	8.223	82.231	82.231
220	8.300	27.231	-8.300	-27.231	77.776	4.305	13.830	5.535	11	9	8	6	8	130.461	1.589	1.145	0.444	14.241	0.955	74.510	71.170	0.000	0.000	66.591	5.650	76.188	-0.000	-0.000	66.602	7.410	67.602	2.551	0.000	57.527	37.975	-0.573	2.539	197.588	0.000	0.000	0.000	7.117	71.170	71.170
221	8.350	27.395	-8.350	-27.395	93.107	4.848	44.360	5.207	11	9	8	6	8	130.461	1.600	1.150	0.450	14.405	0.953	89.196	84.991	0.000	0.000	79.593	5.298	91.508	0.010	0.010	78.779	8.787	79.779	2.481	0.000	62.614	38.823	-0.547	2.354	219.284	0.000	0.000	0.000	8.499	84.991	84.991
222	8.400	27.559	-8.400	-27.559	112.946	4.575	26.550	4.051	11	9	9	6	8	130.461	1.610	1.156	0.455	14.569	0.951	108.202	102.851	0.000	0.000	96.372	4.109	111.336	0.003	0.003	96.048	10.741	97.048	2.343	0.000	68.081	39.734	-0.429	2.200	248.551	0.000	0.000	0.000	10.285	102.851	102.851
223	8.450	27.723	-8.450	-27.723	143.672	3.159	0.300	2.199	7	5	9	6	5	117.733	1.621	1.161	0.460	14.733	0.948	45.879	43.515	29.455	27.937	122.423	2.224	142.052	-0.003	-0.003	122.811	13.763	123.811	2.071	14.953	74.916	40.873	-0.303	2.044	293.774	0.000	0.000	0.000	13.055	130.546	130.546
224	8.500	27.887	-8.500	-27.887	133.464	2.402	-4.150	1.800	8	5	9	6	5	120.915	1.630	1.165	0.465	14.897	0.947	31.965	30.257	26.911	25.474	113.162	1.822	131.834	-0.004	-0.005	113.672	12.798	114.672	2.029	13.741	72.746	40.512	-0.265	2.092	279.383	0.000	0.000	0.000	12.103	121.027	121.027
225	8.550	28.051	-8.550	-28.051	164.642	2.785	-1.270	1.692	8	6	9	6	5	120.915	1.640	1.170	0.470	15.061	0.945	39.432	37.248	32.178	30.396	139.342	1.709	163.002	-0.003	-0.003	139.778	15.777	140.778	1.947	11.564	78.704	41.505	-0.279	1.966	323.821	0.000	0.000	0.000	14.899	148.994	148.994
226	8.600	28.215	-8.600	-28.215	199.517	5.088	5.980	2.550	7	5	9	6	8	117.733	1.650	1.175	0.475	15.225	0.943	63.713	60.065	40.291	37.984	168.475	2.571	197.868	-0.001	-0.001	168.720	19.096	169.720	2.033	13.850	84.154	42.413	-0.366	1.929	384.989	0.000	0.000	0.000	18.020	180.195	180.195
227	8.650	28.379	-8.650	-28.379	182.224	6.926	18.330	3.801	12	8	9	6	8	120.915	1.660	1.180	0.480	15.390	0.941	87.286	82.126	0.000	0.000	153.134	3.836	180.565	0.001	0.001	153.056	17.402	154.056	2.197	0.000	81.499	41.971	-0.470	1.925	350.862	0.000	0.000	0.000	16.425	164.251	164.251
228	8.700	28.543	-8.700	-28.543	170.623	8.152	255.200	4.778	11	9	9	6	8	130.461	1.670	1.185	0.485	15.554	0.939	163.457	153.457	0.000	0.000	142.659	4.825	168.954	0.044	0.044	136.343	15.583	137.343	2.296	0.000	79.550	41.646	-0.579	1.952	333.259	0.000	0.000	0.000	15.346	153.457	153.457
229	8.750	28.707	-8.750	-28.707	174.300	7.770	91.260	4.458	11	9	9	6	8	130.461	1.681	1.190	0.490	15.718	0.937	166.979	156.396	0.000	0.000	145.071	4.501	172.620	0.014	0.014	143.089	16.425	144.089	2.266	0.000	80.094	41.736	-0.540	1.944	338.982	0.000	0.000	0.000	15.640	156.396	156.396
230	8.800	28.871	-8.800	-28.871	246.425	6.274	23.300	2.546	7	8	10	7	8	117.733	1.691	1.195	0.496	15.882	0.935	78.692	73.548	0.000	0.000	204.807	2.564	244.735	0.001	0.001	204.613	23.538	205.613	1.980	0.000	89.959	43.381	-0.388	0.000	0.000	0.000	0.000	0.000	22.064	220.644	220.644
231	8.850	29.035	-8.850	-29.035	291.580	4.444	6.430	1.524	8	6	10	7	8	120.915	1.701	1.200	0.501	16.046	0.933	69.833	65.142	53.170	49.598	241.643	1.533	289.880	-0.001	-0.001	241.893	27.914	242.893	1.757	7.226	94.726	44.175	-0.321	0.000	0.000	0.000	0.000	0.000	26.057	260.567	260.567
232	8.900	29.199	-8.900	-29.199	284.016	3.913	4.150	1.378	9	6	10	7	8	124.097	1.711	1.205	0.506	16.210	0.931	54.417	50.657	51.299	47.755	234.366	1.386	282.306	-0.001	-0.001	234.679	27.196	235.679	1.730	6.685	93.914	44.040	-0.305	0.000	0.000	0.000	0.000	0.000	25.329	253.287	253.287
233	8.950	29.363	-8.950	-29.363	255.548	4.008	9.350	1.568	8	6	10	7	8	120.915	1.721	1.210	0.511	16.374	0.929	61.204	56.859	47.368	44.006	209.866	1.579	253.828	-0.001	-0.001	210.047	24.454	211.047	1.803	8.186	90.828	43.525	-0.310	0.000	0.000	0.000	0.000	0.000	22.744	227.435	227.435
234	9.000	29.527	-9.000	-29.527	227.023	6.195	19.730	2.729	7	8	9	7	8	117.733	1.731	1.215	0.516	16.539	0.927	72.496	67.220	0.000	0.000	185.558	2.750	225.293	0.000	0.000	185.475	21.690	186.475	2.028	0.000	87.380	42.951	-0.392	0.000	0.000	0.000	0.000	0.000	20.166	201.659	201.659
235	9.050	29.691	-9.050	-29.691	224.581	8.181	80.290	3.643	12	8	9	7	8	120.915	1.741	1.219	0.521	16.703	0.925	107.574	99.554	0.000	0.000	182.836	3.671	222.841	0.009	0.009	181.207	21.275	182.207	2.135	0.000	87.015	42.890	-0.477	2.062	463.359	0.000	0.000	0.000	19.911	199.108	199.108
236	9.100	29.855	-9.100	-29.855	222.730	9.496	273.950	4.263	11	8	9	6	8	130.461	1.751	1.224	0.526	16.867	0.923	213.376	197.048	0.000	0.000	180.540	4.297	220.980	0.036	0.036	173.984	20.518	174.984	2.195	0.000	86.717	42.840	-0.545	2.039	454.427	0.000	0.000	0.000	19.705	197.048	197.048
237	9.150	30.019	-9.150	-30.019	208.364	9.964	378.650	4.782	11	9	9	6	8	130.461	1.762	1.230	0.531	17.031	0.921	199.613	183.919	0.000	0.000	168.028	4.823	206.603	0.054	0.055	158.848	18.829	159.848	2.253	0.000	84.741	42.511	-0.606	1.946	405.658	0.000	0.000	0.000	18.392	183.919	183.919
238	9.200	30.183	-9.200	-30.183	179.401	9.384	527.220	5.231	11	9	8	6	8	130.461	1.772	1.236	0.537	17.195	0.919	171.866	157.997	0.000	0.000	143.812	5.283	177.630	0.089	0.090	130.923	15.610	131.923	2.322	0.000	80.386	41.785	-0.649	1.945	349.070	0.000	0.000	0.000	15.800	157.997	157.997
239	9.250	30.347	-9.250	-30.347	194.733	8.467	788.570	4.348	11	9	8	6	8	130.461	1.783	1.241	0.542	17.359	0.917	186.554	171.113	0.000	0.000	155.513	4.388	192.951	0.124	0.125	136.111	16.297	137.111	2.236	0.000	82.672	42.166	-0.517	1.925	374.940	0.000	0.000	0.000	17.111	171.113	171.113
240	9.300	30.511	-9.300	-30.511	203.412	9.226	336.650	4.536	11	9	9	6	8	130.461	1.794	1.247	0.547	17.523	0.915	194.868	178.338	0.000	0.000	161.772	4.576	201.619	0.049	0.049	153.779	18.480	154.779	2.241	0.000	83.858	42.364	-0.563	1.931	392.967	0.000	0.000	0.000	17.834	178.338	178.338
241	9.350	30.675	-9.350	-30.675	193.395	9.805	510.200	5.070	11	9	8	6	8	130.461	1.804	1.252	0.552	17.688	0.913	185.272	169.178	0.000	0.000	153.042	5.118	191.591	0.079	0.080	140.761	17.002	141.761	2.294	0.000	82.346	42.112	-0.633	1.927	372.751	0.000	0.000	0.000	16.918	169.178	169.178
242	9.400	30.840	-9.400	-30.840	178.607	8.940	891.750	5.005	11	9	0	6	8	130.461	1.815	1.258	0.557	17.852	0.911	171.105	155.895	0.000	0.000	140.594	5.057	176.793	0.153	0.154	118.901	14.444	119.901	2.309	0.000	80.002	41.721	-0.590	1.954	349.098	0.000	0.000	0.000	15.589	155.895	155.895
243	9.450	31.004	-9.450	-31.004	177.356	3.389	774.640	1.911	8	5	7	6	5	120.915	1.825	1.263	0.562	18.016	0.909	42.477	38.621	35.055	31.873	139.017	1.931	175.531	0.133	0.135	120.313	14.674	121.313	1.977	12.334	79.742	41.678	-0.279	1.959	347.556	0.000	0.000	0.000	15.448	154.485	154.485
244	9.500	31.168	-9.500	-31.168	188.219	3.824	434.020	2.032	8	5	8	6	5	120.915	1.835	1.268	0.567	18.180	0.908	45.079	40.909	37.262	33.816	147.054	2.052	186.385	0.069	0.070	136.813	16.734	137.813	1.981	12.446	81.392	41.953	-0.302	1.936	364.452	0.000	0.000	0.000	16.364	163.637	163.637
245	9.550	31.332	-9.550	-31.332	147.830	5.422	1371.170	3.668	12	8	0	0	4	120.915	1.845	1.273	0.572	18.344	0.906	70.810	64.140	0.000	0.000	114.746	3.714	145.985	0.286	0.289	81.555	10.062	82.555	2.249	0.000	74.414	40.790	-0.367	2.073	306.540	0.000	0.000	0.000	12.828	128.280	128.280
246	9.600	31.496	-9.600	-31.496	168.376	6.434	1503.470	3.821	12	8	0	0	8	120.915	1.855	1.278	0.578	18.508	0.904	80.652	72.917	0.000	0.000	130.396	3.864	166.521	0.275	0.278	94.100	11.635	95.100	2.230	0.000	78.090	41.402	-0.401	1.993	335.664	0.000	0.000	0.000	14.583	145.834	145.834
247	9.650	31.660	-9.650	-31.660	190.825	8.879	1544.940	4.653	11	9	0	0	8	130.461	1.865	1.283	0.583	18.672	0.902	182.810	164.943	0.000	0.000	147.368	4.699	188.960	0.250	0.252	110.213	13.661	111.213	2.269	0.000	81.619	41.991	-0.522	1.935	369.368	0.000	0.000	0.000	16.494	164.943	164.943
248	9.700	31.824	-9.700	-31.824	204.038	10.691	1205.890	5.240	11	9	0	0	8	130.461	1.876	1.288	0.588	18.837	0.900	195.468	175.982	0.000	0.000	156.981	5.288	202.163	0.182	0.183	128.209	15.941	129.209	2.297	0.000	83.476	42.300	-0.646	1.931	394.235	0.000	0.000	0.000	17.598	175.982	175.982
249	9.750	31.988	-9.750	-31.988	205.935	4.794	1544.940	2.328	7	5	0	0	5	117.733	1.886	1.293	0.593	19.001	0.899	65.762	59.090	41.154	36.979	157.826	2.349	204.049	0.231	0.233	120.985	15.109	121.985	2.006	13.104	83.685	42.335	-0.310	1.934	398.349	0.000	0.000	0.000	17.727	177.270	177.270
250	9.800	32.152	-9.800	-32.152	229.315	0.010	1544.940	0.004	10	0	0	0	0	127.279	1.896	1.298	0.598	19.165	0.897	36.614	32.837	0.000	0.000	175.234	0.004	227.419	0.208	0.209	138.537	17.349	139.537	1.635	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	19.702	197.020	197.020
251	9.850	32.316	-9.850	-32.316	533.155	0.010	1544.940	0.002	10	0	0	7	0	127.279	1.907	1.304	0.603	19.329	0.895	85.127	76.189	0.000	0.000	407.675	0.002	531.249	0.089	0.090	371.132	46.456	372.132	1.709

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
100	2.300	7.546	-2.300	-7.546	5.202	0.077	42.020	1.480	1	4	3	3	4	111.369	0.444	0.444	0.000	0.000	1.534	2.492	3.822	1.521	3.275	10.727	1.618	4.759	0.252	0.276	7.770	0.373	8.770	2.827	47.583	0.000	27.317	0.025	0.000	0.000	0.000	0.000	0.000	0.764	7.645	10.727
101	2.350	7.710	-2.350	-7.710	4.991	0.077	43.430	1.543	1	4	3	3	4	111.369	0.453	0.453	0.000	0.000	1.518	2.391	3.630	1.490	3.123	10.024	1.697	4.538	0.272	0.299	7.030	0.348	8.030	2.863	49.725	0.000	27.070	0.032	0.000	0.000	0.000	0.000	0.000	0.726	7.260	10.024
102	2.400	7.874	-2.400	-7.874	4.816	0.076	44.160	1.578	1	4	3	3	3	111.369	0.462	0.462	0.000	0.000	1.503	2.307	3.468	1.462	2.987	9.426	1.746	4.354	0.286	0.317	6.442	0.329	7.442	2.892	51.521	0.000	26.852	0.040	0.000	0.000	0.000	0.000	0.000	0.694	6.935	9.426
103	2.450	8.038	-2.450	-8.038	4.656	0.084	42.640	1.804	1	3	3	3	3	111.369	0.471	0.471	0.000	0.000	1.489	2.230	3.320	1.459	2.906	8.885	2.007	4.185	0.286	0.318	6.059	0.319	7.059	2.945	54.881	0.000	0.000	0.000	0.000	0.000	0.000	0.279	0.166	2.162	0.664	6.640	8.885
104	2.500	8.202	-2.500	-8.202	5.059	0.102	38.350	2.016	4	3	3	3	3	114.551	0.480	0.480	0.000	0.000	1.474	3.231	4.764	1.583	3.114	9.534	2.228	4.579	0.237	0.261	7.042	0.370	8.042	2.943	54.732	0.000	0.000	0.000	0.000	0.000	0.000	0.305	0.150	2.376	0.715	7.145	9.534
105	2.550	8.366	-2.550	-8.366	4.685	0.109	20.090	2.326	3	3	3	3	3	111.369	0.490	0.490	0.000	0.000	1.460	4.489	6.554	1.535	2.932	8.571	2.598	4.196	0.134	0.149	7.290	0.389	8.290	3.018	59.704	0.000	0.000	0.000	0.000	0.000	0.000	0.280	0.078	2.062	0.655	6.554	8.571
106	2.600	8.530	-2.600	-8.530	4.582	0.112	22.740	2.444	3	3	3	3	3	111.369	0.499	0.499	0.000	0.000	1.447	4.390	6.351	1.530	2.854	8.188	2.743	4.083	0.155	0.174	6.765	0.371	7.765	3.047	61.739	0.000	0.000	0.000	0.000	0.000	0.000	0.272	0.089	1.944	0.635	6.351	8.188
107	2.650	8.694	-2.650	-8.694	4.810	0.098	27.240	2.037	4	3	3	3	3	114.551	0.508	0.508	0.000	0.000	1.434	3.072	4.404	1.551	2.850	8.469	2.278	4.302	0.177	0.198	6.795	0.379	7.795	2.992	57.937	0.000	0.000	0.000	0.000	0.000	0.000	0.287	0.106	2.030	0.661	6.606	8.469
108	2.700	8.858	-2.700	-8.858	4.816	0.099	29.770	2.056	4	3	3	3	3	114.551	0.518	0.518	0.000	0.000	1.420	3.076	4.369	1.562	2.813	8.309	2.303	4.298	0.193	0.216	6.512	0.372	7.512	3.001	58.582	0.000	0.000	0.000	0.000	0.000	0.000	0.287	0.116	1.980	0.655	6.553	8.309
109	2.750	9.022	-2.750	-9.022	4.778	0.101	34.980	2.114	4	3	3	3	3	114.551	0.527	0.527	0.000	0.000	1.408	3.052	4.296	1.567	2.763	8.071	2.376	4.252	0.228	0.257	5.999	0.353	6.999	3.019	59.789	0.000	0.000	0.000	0.000	0.000	0.000	0.284	0.137	1.908	0.644	6.444	8.071
110	2.800	9.186	-2.800	-9.186	4.802	0.097	37.160	2.020	4	3	3	3	3	114.551	0.536	0.536	0.000	0.000	1.395	3.067	4.279	1.570	2.716	7.957	2.274	4.266	0.242	0.272	5.793	0.349	6.793	3.015	59.469	0.000	0.000	0.000	0.000	0.000	0.000	0.285	0.145	1.874	0.642	6.419	7.957
111	2.850	9.350	-2.850	-9.350	5.066	0.100	47.440	1.974	4	3	3	3	3	114.551	0.546	0.546	0.000	0.000	1.383	3.236	4.476	1.635	2.791	8.287	2.212	4.521	0.292	0.328	5.572	0.343	6.572	2.993	58.029	0.000	0.000	0.000	0.000	0.000	0.000	0.301	0.185	1.974	0.671	6.713	8.287
112	2.900	9.514	-2.900	-9.514	5.693	0.132	48.610	2.318	4	3	3	3	3	114.551	0.555	0.555	0.000	0.000	1.372	3.636	4.987	1.830	3.107	9.260	2.569	5.139	0.266	0.295	6.526	0.400	7.526	2.987	57.623	0.000	0.000	0.000	0.000	0.000	0.000	0.343	0.190	2.284	0.748	7.481	9.260
113	2.950	9.678	-2.950	-9.678	5.950	0.165	33.660	2.773	3	3	3	3	3	111.369	0.564	0.564	0.000	0.000	1.360	5.700	7.753	1.951	3.267	9.546	3.064	5.386	0.177	0.195	7.684	0.469	8.684	3.019	59.748	0.000	0.000	0.000	0.000	0.000	0.000	0.359	0.131	2.380	0.775	7.753	9.546
114	3.000	9.842	-3.000	-9.842	5.690	0.169	28.890	2.970	3	3	3	3	3	111.369	0.574	0.574	0.000	0.000	1.349	5.451	7.356	1.917	3.139	8.925	3.303	5.117	0.158	0.176	7.352	0.459	8.352	3.061	62.703	0.000	0.000	0.000	0.000	0.000	0.000	0.341	0.113	2.175	0.736	7.356	8.925
115	3.050	10.006	-3.050	-10.006	4.988	0.146	44.490	2.927	3	3	3	3	3	111.369	0.583	0.583	0.000	0.000	1.339	4.778	6.397	1.749	2.768	7.563	3.314	4.405	0.278	0.315	5.179	0.345	6.179	3.121	67.048	0.000	0.000	0.000	0.000	0.000	0.000	0.294	0.174	1.758	0.640	6.397	7.563
116	3.100	10.170	-3.100	-10.170	4.980	0.140	49.590	2.811	3	3	3	3	3	111.369	0.592	0.592	0.000	0.000	1.328	4.770	6.337	1.744	2.711	7.417	3.191	4.388	0.311	0.353	4.801	0.329	5.801	3.119	66.892	0.000	0.000	0.000	0.000	0.000	0.000	0.293	0.194	1.716	0.634	6.337	7.417
117	3.150	10.335	-3.150	-10.335	4.842	0.150	40.310	3.098	3	3	3	3	3	111.369	0.601	0.601	0.000	0.000	1.318	4.638	6.114	1.746	2.657	7.060	3.537	4.241	0.260	0.297	4.965	0.343	5.965	3.162	70.083	0.000	0.000	0.000	0.000	0.000	0.000	0.283	0.157	1.616	0.611	6.114	7.060
118	3.200	10.499	-3.200	-10.499	5.228	0.173	44.460	3.309	3	3	3	3	3	111.369	0.610	0.610	0.000	0.000	1.308	5.008	6.552	1.871	2.828	7.572	3.746	4.618	0.265	0.301	5.296	0.368	6.296	3.151	69.252	0.000	0.000	0.000	0.000	0.000	0.000	0.308	0.174	1.761	0.655	6.552	7.572
119	3.250	10.663	-3.250	-10.663	5.559	0.184	33.530	3.310	3	3	3	3	3	111.369	0.619	0.619	0.000	0.000	1.299	5.326	6.916	1.962	2.940	7.981	3.724	4.940	0.188	0.212	6.290	0.432	7.290	3.131	67.739	0.000	0.000	0.000	0.000	0.000	0.000	0.329	0.131	1.881	0.692	6.916	7.981
120	3.300	10.827	-3.300	-10.827	5.831	0.191	32.210	3.276	3	3	3	3	3	111.369	0.628	0.628	0.000	0.000	1.289	5.586	7.201	2.034	3.017	8.283	3.671	5.203	0.172	0.193	6.683	0.462	7.683	3.114	66.500	0.000	0.000	0.000	0.000	0.000	0.000	0.347	0.126	1.973	0.720	7.201	8.283
121	3.350	10.991	-3.350	-10.991	6.302	0.204	41.960	3.237	3	3	3	3	3	111.369	0.638	0.638	0.000	0.000	1.280	6.037	7.727	2.155	3.173	8.889	3.601	5.665	0.208	0.231	6.834	0.478	7.834	3.084	64.334	0.000	0.000	0.000	0.000	0.000	0.000	0.378	0.164	2.163	0.773	7.727	8.889
122	3.400	11.155	-3.400	-11.155	11.208	0.238	68.500	2.124	5	4	4	4	4	114.551	0.647	0.647	0.000	0.000	1.271	5.368	6.821	3.142	4.781	16.335	2.254	10.561	0.191	0.202	13.028	0.869	14.028	2.751	43.217	0.000	30.084	-0.053	0.000	0.000	0.000	0.000	0.000	1.364	13.643	16.335
123	3.450	11.319	-3.450	-11.319	18.544	0.277	69.550	1.494	6	5	5	5	5	114.551	0.656	0.656	0.000	0.000	1.262	7.106	8.964	4.680	5.904	27.272	1.549	17.888	0.117	0.121	23.962	1.569	24.962	2.546	32.765	0.000	32.455	-0.087	0.000	0.000	0.000	0.000	0.000	2.241	22.411	22.411
124	3.500	11.483	-3.500	-11.483	15.488	0.324	17.230	2.092	5	4	6	5	4	114.551	0.666	0.666	0.000	0.000	1.253	7.419	9.292	4.083	6.131	22.278	2.186	14.822	0.035	0.036	21.470	1.432	22.470	2.634	37.021	0.000	31.561	-0.106	0.000	0.000	0.000	0.000	0.000	1.858	18.585	22.278
125	3.550	11.647	-3.550	-11.647	11.400	0.336	1.550	2.947	4	4	6	5	3	114.551	0.675	0.675	0.000	0.000	1.244	7.281	9.056	3.367	4.900	15.896	3.133	10.725	0.004	0.005	15.824	1.087	16.824	2.845	48.611	0.000	30.063	-0.108	0.000	0.000	0.000	0.000	0.000	1.358	13.584	15.896
126	3.600	11.811	-3.600	-11.811	10.188	0.261	10.950	2.562	5	4	5	5	3	114.551	0.684	0.684	0.000	0.000	1.235	4.880	6.028	3.032	4.316	13.893	2.746	9.504	0.034	0.036	13.393	0.943	14.393	2.858	49.408	0.000	29.493	-0.073	0.000	0.000	0.000	0.000	0.000	1.206	12.057	13.893
127	3.650	11.975	-3.650	-11.975	9.771	0.235	20.960	2.405	5	4	5	4	3	114.551	0.694	0.694	0.000	0.000	1.227	4.680	5.742	2.918	4.081	13.089	2.589	9.077	0.067	0.072	12.146	0.873	13.146	2.864	49.798	0.000	29.261	-0.056	0.000	0.000	0.000	0.000	0.000	1.148	11.484	13.089
128	3.700	12.139	-3.700	-12.139	10.192	0.279	34.020	2.737	4	3	5	4	3	114.551	0.703	0.699	0.004	0.138	1.222	6.510	7.957	3.078	4.282	13.584	2.940	9.489	0.104	0.111	12.070	0.875	13.070	2.883	50.947	0.000	0.000	0.000	0.000	0.000	0.000	0.633	0.132	3.928	1.194	11.936	13.584
129	3.750	12.303	-3.750	-12.303	10.796	0.281	44.280	2.603	5	4	4	4	3	114.551	0.713	0.703	0.009	0.302	1.219	5.171	6.302	3.199	4.437	14.347	2.787	10.084	0.127	0.136	12.394	0.902	13.394	2.850	48.947	0.000	29.706	-0.065	0.000	0.000	0.000	0.000	0.000	1.260	12.604	14.347
130	3.800	12.467	-3.800	-12.467	9.916	0.262	47.370	2.642	4	3	4	4	3	114.551	0.722	0.707	0.015	0.466	1.215	6.333	7.694	3.007	4.116	13.002	2.850	9.194	0.148	0.159	10.931	0.808	11.931	2.891	51.414	0.000	0.000	0.000	0.000	0.000	0.000	0.613	0.183	3.682	1.154	11.541	13.002
131	3.850	12.631	-3.850	-12.631	10.344	0.318	21.410	3.074	4	3	5	4	3	114.551	0.731	0.712	0.020	0.630	1.211	6.606	8.002	3.183	4.340	13.512	3.308	9.613	0.063	0.067	12.600	0.927	13.600	2.915	52.952	0.000	0.000	0.000	0.000	0.000	0.000	0.641	0.081	3.897	1.200	12.003	13.512
132	3.900	12.795	-3.900	-12.795	9.332	0.404	9.930	4.329	3	3	5	4	3	111.369	0.741	0.716	0.025	0.794	1.208	8.940	10.798	3.119	4.189	12.007	4.702	8.592	0.031	0.033	11.608	0.864	12.608	3.049	61.838	0.000	0.000	0.000	0.000	0.000	0.000	0.573	0.036	3.280	1.080	10.798	12.007
133	3.950	12.959	-3.950	-12.959	10.896	0.494	-5.460	4.534	3	3	6	5	3	111.369	0.750	0.720	0.030	0.959	1.204	10.438	12.572	3.540	4.781	14.101	4.869	10.146	-0.018	-0.020	14.379	1.060	15.379	3.004	58.756	0.000	0.000	0.000	0.000	0.000	0.000	0.677	0.000	4.151	1.257	12.572	14.101
134	4.000	13.123	-4.000	-13.123	15.510	0.842	-11.180	5.429	3	3	6	5	3	111.369	0.759	0.724	0.035	1.123	1.201	14.859	17.847	4.810	6.600	20.387	5.708	14.752	-0.025	-0.026	20.917	1.519	21.917	2.928	53.782	0.000	0.000	0.000	0.000	0.000	0.000	0.984	0.000	7.300	1.785	17.847	20.387
135	4.050	13.287	-4.050	-13.287	26.607	1.213	-3.710	4.559	4	4	7	6	3	114.551	0.768	0.728	0.040	1.287	1.198	16.993	20.352	7.241	10.087	35.506	4.694	25.839	-0.006	-0.006	35.720	2.560	36.720	2.695	40.192	33.265	33.932	-0.322	3.717	98.927	0.000	0.000	0.000	3.053	30.527	35.506
136	4.100	13.451	-4.100	-13.451	25.124	1.459	-9.040	5.807	3	3	7	6	3	111.369	0.777	0.732	0.045	1.451	1.194	24.068	28.744	7.197	9.947	33.266	5.993	24.346	-0.013	-0.013	33.713	2.434	34.713	2.790	45.431	0.000	0.000	0.000	0.000	0.000	0.000	1.624	0.000	10.000	2.874	28.744	33.266
137	4.150	13.615	-4.150	-13.615	20.557	1.380	-10.120	6.713	3	3	7	5	3	111.369	0.787	0.736	0.050	1.615	1.191	19.693	23.455	6.278	8.565	26.866	6.980	19.771	-0.018	-0.019	27.364	2.000	28.364	2.902	52.152	0.000	0.000	0.000	0.000	0.000	0.000	1.319	0.000	10.000	2.345	23.455	26.866
138	4.200	13.779	-4.200	-13.779	17.693	1.064	-7.560	6.014	3	3	6	5	3	111.369	0.796	0.740	0.056	1.779	1.188	16.950	20.132	5.465	7.363	22.837	6.297	16.897	-0.016	-0.017	23.231	1.718	24.231	2.921	53.345	0.000	0.000	0.000	0.000	0.000	0.000	1.127	0.000	8.730	2.013	20.132	22.837
139	4.250	13.943	-4.250	-13.943	20.128	1.063	-1.860	5.281	3	3	7	5	3	111.369	0.805	0.744	0.061	1.943	1.185	19.283	22.842	5.931	7.989	25.976	5.501	19.324	-0.006	-0.006	26.135	1.934	27.135	2.840	48.365	0.000	0.000	0.000	0.000	0.000	0.000	1.289	0.000	10.000	2.284	22.842	25.976
140	4.300	14.107	-4.300	-14.107	22.596	0.861	-3.770	3.810	4	4	7	5	3	114.551	0.814	0.748	0.066	2.108	1.181	14.432	17.048	6.187	8.322	29.119	3.953	21.783	-0.008	-0.008	29.364	2.176	30.364	2.706	40.794	0.000	33.085	-0.235	0.000	0.000	0.000	0.000	0.000	2.557	25.571	29.119
141	4.350	14.271	-4.350	-14.271	18.101	0.831	-6.300	4.591	3	3	6	5	3	111.369	0.823	0.753	0.071	2.272	1.178	17.340	20.427	5.332	7.063	22.969	4.810	17.278	-0.015	-0.015	23.325	1.753	24.325	2.840	48.335	0.000	0.000	0.000	0.000	0.000	0.000	1.152	0.000	8.810	2.043	20.427	22.969
142	4.400	14.436	-4.400	-14.436	35.421	0.689	-4.680	1.945	6	5	7	6	5	114.551	0.833	0.757	0.076	2.436	1.175	13.573	15.946	8.381	9.846	45.731	1.992	34.588	-0.006	-0.006	46.024	3.407	47.024	2.409	26.777	40.914	35.206	-0.180	3.295	116.745	0.000	0.000	0.000	3.986	39.864	39.864
143	4.450	14.600	-4.450	-14.600	46.317	0.745	-8.460	1.608	7	5	8	6	5	117.733	0.842	0.761	0.081	2.600	1.171	14.791	17.325	10.288	12.051	59.776	1.638	45.475	-0.007	-0.008	60.230	4.462	61.230	2.266	21.282	48.518	36.474	-0.187	2.883	133.601	0.000	0.000	0.000	5.198	51.976	51.976
144	4.500	14.764	-4.500	-14.764	51.510	0.788	-8.040	1.530	7	5	8	6	5	117.733	0.852	0.766	0.086	2.764	1.168	16.449	19.210	11.207	13.088	66.195	1.556	50.658	-0.007	-0.007	66.635	4.959	67.635	2.217	19.570	51.479	36.967	-0.191	2.734	140.906	0.000	0.000	0.000	5.763	57.631	57.631
145	4.550	14.928	-4.550	-14.928	118.199	0.903	-3.340	0.764	9	6	9	9	6	124.097	0.862	0.770	0.091	2.928	1.164	22.647	26.367	21.467	24.993	152.369	0.770	117.338	-0.002	-0.002	152.623	11.333	153.623	1.745	6.994	75.197	40.920	-0.203	1.979	234.032	0.000	0.000	0.000	13.183	131.834	131.834
146	4.600	15.092	-4.600	-15.092	184.045	0.853	-2.440	0.463	9	6	9	9	7	124.097	0.872	0.775	0.097	3.092	1.160	35.263	40.921	30.390	35.266	236.308	0.466	183.173	-0.001	-0.001	236.531	17.639	237.531	1.460	2.289	87.796	43.020	-0.197	0.000	0.000	0.000	0.000	0.000	0.000	20.460	204.604	204.604
147	4.650	15.256	-4.650	-15.256	226.691	1.176	-4.590	0.519	9	6	9	9	7	124.097	0.882	0.781	0.102	3.257	1.157	43.434	50.239	36.982	42.776	289.424	0.521	225.810	-0.001	-0.001	289.738	21.731	290.738	1.422	1.795	93.676	44.000	-0.225	0.000	0.000	0.000	0.000	0.000	0.000	25.120	251.197	251.197
148	4.700	15.420	-4.700	-15.420	240.094	1.500	-4.210	0.625	9	6	9	9	7	124.097	0.892	0.786	0.107	3.421	1.153	46.002	53.038	39.635	45.697	304.614	0.627	239.202	-0.001	-0.001	304.918	23.014	305.918	1.459	2.279	0.000	44.259	-0.247	0.000	0.000	0.000	0.000	0.000	0.000	26.519	265.190	265.190
149	4.750	15.584	-4.750	-15.584	244.239	1.817	-1.710	0.744	9	6	9	9	8	124.097	0.903	0.791	0.112	3.585	1.149	46.796	53.781	40.967	47.082	307.898	0.747	243.337	-0.001	-0.001	308.107	23.403	309.107	1.509	2.966	0.000	44.326	-0.264	0.000	0.000	0.000	0.000	0.000	0.000	26.890	268.904	268.904
150	4.800	15.748	-4.800	-15.748	244.565	1.924	0.840	0.787	9	6	9	9	8	124.097	0.913	0.796	0.117	3.749	1.146	46.859	53.681	41.265	47.273	306.337	0.790	243.653	-0.000	-0.000	306.451	23.427	307.451	1.527	3.232	0.000	44.317	-0.269	0.000	0.000	0.000	0.000	0.000	0.000	26.841	268.405	268.405
151	4.850	15.912	-4.850	-15.912	255.755	1.948	3.990	0.762	9	6	10	7	8	124.097	0.923	0.801	0.122	3.913	1.142	49.003	55.960	42.838	48.920	318.368	0.764	254.832	0.000	0.000	318.365	24.489	319.365	1.505	2.903	0.000	44.515	-0.270	0.000	0.000	0.000	0.000	0.000	0.000	27.980	279.798	279.798
152	4.900	16.076	-4.900	-16.076	273.119	1.903	6.290	0.697	9	6	10	7	8	124.097	0.933	0.806	0.127	4.077	1.138	52.330	59.571	45.064	51.300	337.914	0.699	272.187	0.000	0.000	337.828	26.146	338.828	1.458	2.258	0.000	44.814	-0.266	0.000	0.000	0.000	0.000	0.000	0.000	29.786	297.855	297.855
153	4.950	16.240	-4.950	-16.240	281.724	1.757	7.080	0.624	9	6	10	7	8	124.097	0.943	0.811	0.132	4.241	1.135	53.978	61.256	45.853	52.035	346.409	0.626	280.781	0.000	0.000	346.300	26.968	347.300	1.415	1.703	0.000	44.947	-0.258	0.000	0.000	0.000	0.000	0.000	0.000	30.628	306.279	306.279
154	5.000	16.404	-5.000	-16.404	273.660	1.570	3.160	0.574	10	6	10	7	8	127.279	0.954	0.816	0.137	4.405	1.131	43.694	49.427	44.320	50.135	334.308	0.576	272.707	-0.000	-0.000	334.355	26.207	335.355	1.399	1.509	0.000	44.793	-0.247	0.000	0.000	0.000	0.000	0.000	0.000	29.656	296.564	296.564
155	5.050	16.568	-5.050	-16.568	244.180	1.510	3.190	0.618	9	6	9	7	6	124.097	0.964	0.821	0.143	4.570	1.128	46.785	52.756	40.292	45.435	296.272	0.621	243.216	-0.000	-0.000	296.324	23.383	297.324	1.458	2.261	0.000	44.234	-0.243	0.000	0.000	0.000	0.000	0.000	0.000	26.378	263.780	263.780
156	5.100	16.732	-5.100	-16.732	207.424	0.795	-2.560	0.383	9	6	9	9	7	124.097	0.974	0.826	0.148	4.734	1.124	39.742	44.677	33.401	37.548	249.946	0.385	206.450	-0.001	-0.001	250.221	19.879	251.221	1.380	1.289	90.313	43.440	-0.186	0.000	0.000	0.000	0.000	0.000	0.000	22.339	223.386	223.386
157	5.150	16.896	-5.150	-16.896	167.406	0.872	-3.890	0.521	9	6	9	9	7	124.097	0.984	0.831	0.153	4.898	1.121	32.075	35.948	28.326	31.747	200.258	0.524	166.422	-0.002	-0.002	200.588	16.049	201.588	1.536	3.361	84.082	42.401	-0.193	1.897	317.625	0.000	0.000	0.000	17.974	179.739	179.739
158	5.200	17.060	-5.200	-17.060	163.203	1.230	-2.720	0.754	9	6	9	9	7	124.097	0.994	0.836	0.158	5.062	1.117	31.270	34.939	28.666	32.030	194.008	0.758	162.209	-0.001	-0.001	194.298	15.643	195.298	1.648	5.180	83.266	42.265	-0.223	1.887	308.029	0.000	0.000	0.000	17.470	174.696	174.696
159	5.250	17.224	-5.250	-17.224	174.961	1.655	-1.370	0.946	9	6	9	9	7	124.097	1.005	0.842	0.163	5.226	1.114	33.523	37.344	31.225	34.785	206.808	0.951	173.957	-0.001	-0.001	207.053	16.765	208.053	1.695	6.025	85.174	42.583	-0.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
199	7.250	23.786	-7.250	-23.786	69.163	1.298	22.900	1.877	7	5	8	6	5	117.733	1.387	1.019	0.368	11.792	1.012	22.086	22.357	15.108	15.293	66.535	1.915	67.776	0.005	0.005	66.194	6.557	67.194	2.227	19.896	55.827	37.692	-0.214	2.585	178.837	0.000	0.000	0.000	6.707	67.072	67.072
200	7.300	23.950	-7.300	-23.950	94.232	0.973	1.990	1.033	8	6	9	6	5	120.915	1.397	1.024	0.373	11.956	1.010	22.569	22.794	18.465	18.649	90.720	1.048	92.836	-0.003	-0.003	91.024	9.022	92.024	1.954	11.742	64.627	39.159	-0.183	2.268	213.778	0.000	0.000	0.000	9.118	91.175	91.175
201	7.350	24.114	-7.350	-24.114	95.009	0.514	-4.970	0.541	9	6	9	6	6	124.097	1.407	1.029	0.378	12.120	1.008	18.204	18.341	17.511	17.644	91.031	0.549	93.603	-0.006	-0.006	91.549	9.117	92.549	1.787	7.849	64.794	39.186	-0.127	2.264	215.173	0.000	0.000	0.000	9.171	91.706	91.706
202	7.400	24.278	-7.400	-24.278	93.329	0.635	-4.910	0.680	8	6	9	6	6	120.915	1.417	1.034	0.383	12.284	1.005	22.352	22.467	17.594	17.684	88.961	0.691	91.913	-0.006	-0.006	89.481	8.956	90.481	1.850	9.218	64.214	39.090	-0.144	2.282	213.041	0.000	0.000	0.000	8.987	89.870	89.870
203	7.450	24.442	-7.450	-24.442	84.062	0.776	-4.530	0.923	8	6	9	6	5	120.915	1.427	1.038	0.388	12.448	1.003	20.133	20.190	16.545	16.592	79.612	0.939	82.635	-0.006	-0.006	80.123	8.067	81.123	1.966	12.045	61.150	38.579	-0.161	2.381	200.236	0.000	0.000	0.000	8.076	80.758	80.758
204	7.500	24.606	-7.500	-24.606	66.662	0.916	-4.460	1.374	7	5	8	6	5	117.733	1.437	1.043	0.394	12.612	1.001	21.287	21.300	14.131	14.139	62.559	1.404	65.226	-0.008	-0.008	63.069	6.400	64.069	2.154	17.494	54.438	37.460	-0.175	2.651	176.822	0.000	0.000	0.000	6.390	63.899	63.899
205	7.550	24.770	-7.550	-24.770	53.273	0.760	-2.800	1.427	7	5	8	6	5	117.733	1.446	1.048	0.399	12.777	0.998	17.012	16.985	11.716	11.697	49.492	1.466	51.827	-0.009	-0.009	49.956	5.112	50.956	2.243	20.454	47.949	36.379	-0.156	2.974	158.479	0.000	0.000	0.000	5.095	50.954	50.954
206	7.600	24.934	-7.600	-24.934	61.256	0.534	2.530	0.872	8	5	8	6	5	120.915	1.456	1.052	0.404	12.941	0.996	14.671	14.615	12.537	12.489	56.853	0.893	59.800	-0.005	-0.005	57.162	5.861	58.162	2.067	14.824	51.888	37.035	-0.125	2.774	169.978	0.000	0.000	0.000	5.846	58.459	58.459
207	7.650	25.098	-7.650	-25.098	68.143	0.341	2.080	0.500	8	6	8	6	6	120.915	1.466	1.057	0.409	13.105	0.994	16.320	16.221	13.086	13.007	63.103	0.511	66.678	-0.005	-0.005	63.429	6.522	64.429	1.900	10.400	54.877	37.534	-0.088	2.635	179.604	0.000	0.000	0.000	6.488	64.884	64.884
208	7.700	25.262	-7.700	-25.262	56.748	0.380	-3.470	0.670	8	6	8	6	5	120.915	1.476	1.062	0.414	13.269	0.992	13.591	13.478	11.468	11.373	52.074	0.687	55.273	-0.009	-0.009	52.566	5.447	53.566	2.035	13.903	49.567	36.649	-0.095	2.892	164.207	0.000	0.000	0.000	5.391	53.912	53.912
209	7.750	25.426	-7.750	-25.426	44.447	0.404	-3.660	0.909	7	5	8	6	5	117.733	1.486	1.067	0.419	13.433	0.990	14.193	14.044	9.592	9.491	40.298	0.940	42.962	-0.012	-0.012	40.798	4.269	41.798	2.198	18.913	42.501	35.471	-0.097	3.276	145.678	0.000	0.000	0.000	4.213	42.133	42.133
210	7.800	25.590	-7.800	-25.590	42.789	0.306	-0.180	0.715	7	5	8	6	5	117.733	1.495	1.071	0.424	13.597	0.987	13.664	13.492	9.085	8.971	38.570	0.741	41.294	-0.010	-0.010	38.971	4.100	39.971	2.158	17.622	41.350	35.279	-0.074	3.342	143.056	0.000	0.000	0.000	4.048	40.476	40.476
211	7.850	25.754	-7.850	-25.754	35.168	0.199	1.260	0.566	7	5	7	5	5	117.733	1.505	1.076	0.429	13.761	0.985	11.230	11.065	7.555	7.444	31.310	0.591	33.663	-0.011	-0.012	31.672	3.365	32.672	2.187	18.552	35.667	34.332	-0.038	3.663	128.879	0.000	0.000	0.000	3.320	33.196	33.196
212	7.900	25.918	-7.900	-25.918	27.773	0.195	0.460	0.702	7	5	7	5	5	117.733	1.515	1.080	0.435	13.926	0.983	8.869	8.720	6.327	6.221	24.320	0.743	26.259	-0.015	-0.016	24.709	2.659	25.709	2.324	23.428	0.000	33.194	-0.032	0.000	0.000	0.000	0.000	0.000	2.616	26.161	26.161
213	7.950	26.082	-7.950	-26.082	19.975	0.270	8.760	1.352	6	4	7	5	5	114.551	1.524	1.085	0.440	14.090	0.981	7.654	7.511	5.265	4.682	17.020	1.463	18.451	-0.008	-0.009	17.173	1.887	18.173	2.633	36.990	0.000	31.610	-0.049	0.000	0.000	0.000	0.000	0.000	1.878	18.777	17.020
214	8.000	26.246	-8.000	-26.246	18.091	0.480	43.460	2.653	5	4	6	5	3	114.551	1.534	1.089	0.445	14.254	0.979	8.666	8.487	5.328	4.677	15.214	2.899	16.558	0.050	0.055	14.376	1.603	15.376	2.840	48.319	0.000	31.127	-0.087	0.000	0.000	0.000	0.000	0.000	1.697	16.973	15.214
215	8.050	26.410	-8.050	-26.410	23.831	0.575	78.680	2.413	6	4	6	5	4	114.551	1.543	1.093	0.450	14.418	0.977	9.132	8.926	6.528	5.832	20.399	2.580	22.289	0.084	0.090	18.563	2.048	19.563	2.707	40.842	0.000	32.434	-0.106	0.000	0.000	0.000	0.000	0.000	2.231	22.314	20.399
216	8.100	26.574	-8.100	-26.574	47.942	0.572	40.300	1.193	7	5	8	6	5	117.733	1.553	1.098	0.455	14.582	0.975	15.309	14.933	10.541	10.282	42.285	1.233	46.390	0.017	0.017	41.553	4.472	42.553	2.242	20.431	44.260	35.764	-0.122	3.186	152.789	0.000	0.000	0.000	4.480	44.800	44.800
217	8.150	26.739	-8.150	-26.739	52.231	0.423	-4.660	0.810	8	5	8	6	5	120.915	1.562	1.102	0.460	14.746	0.973	12.509	12.176	10.904	10.614	45.990	0.835	50.669	-0.012	-0.012	46.540	5.018	47.540	2.117	16.318	46.655	36.163	-0.100	3.056	159.658	0.000	0.000	0.000	4.870	48.705	48.705
218	8.200	26.903	-8.200	-26.903	60.664	0.354	3.800	0.584	8	6	8	6	6	120.915	1.572	1.107	0.465	14.910	0.971	14.529	14.111	12.036	11.690	53.403	0.599	59.092	-0.006	-0.006	53.716	5.800	54.716	1.987	12.597	50.883	36.868	-0.086	2.836	172.089	0.000	0.000	0.000	5.645	56.446	56.446
219	8.250	27.067	-8.250	-27.067	56.448	0.426	6.140	0.755	8	5	8	6	6	120.915	1.582	1.112	0.470	15.074	0.969	13.519	13.102	11.581	11.223	49.371	0.776	54.867	-0.005	-0.005	49.621	5.389	50.621	2.073	15.003	48.757	36.514	-0.100	2.946	166.354	0.000	0.000	0.000	5.241	52.410	52.410
220	8.300	27.231	-8.300	-27.231	46.068	0.638	2.870	1.385	7	5	8	6	5	117.733	1.592	1.116	0.476	15.239	0.967	14.711	14.228	10.374	10.033	39.854	1.434	44.477	-0.008	-0.009	40.200	4.405	41.200	2.298	22.440	42.872	35.533	-0.132	3.268	150.595	0.000	0.000	0.000	4.268	42.683	42.683
221	8.350	27.395	-8.350	-27.395	27.963	0.623	10.050	2.228	6	4	7	5	4	114.551	1.602	1.121	0.481	15.403	0.965	10.715	10.343	7.377	6.480	23.529	2.363	26.362	-0.006	-0.006	23.678	2.649	24.678	2.635	37.085	0.000	33.138	-0.125	0.000	0.000	0.000	0.000	0.000	2.586	25.857	23.529
222	8.400	27.559	-8.400	-27.559	28.355	0.789	20.050	2.783	5	4	7	5	4	114.551	1.611	1.125	0.486	15.567	0.963	13.582	13.085	7.699	6.740	23.780	2.950	26.745	0.005	0.005	23.656	2.656	24.656	2.691	39.958	0.000	33.196	-0.152	0.000	0.000	0.000	0.000	0.000	2.617	26.170	23.780
223	8.450	27.723	-8.450	-27.723	37.854	0.868	47.020	2.293	6	4	7	5	4	114.551	1.620	1.129	0.491	15.731	0.962	14.505	13.948	9.366	9.006	32.095	2.396	36.234	0.026	0.027	31.230	3.486	32.230	2.505	30.894	37.077	34.567	-0.158	3.598	136.258	0.000	0.000	0.000	3.487	34.870	34.870
224	8.500	27.887	-8.500	-27.887	36.717	1.055	77.990	2.873	6	4	7	5	4	114.551	1.630	1.134	0.496	15.895	0.960	14.070	13.504	9.555	8.411	30.963	3.007	35.088	0.053	0.055	29.252	3.284	30.252	2.608	35.739	36.149	34.412	-0.181	3.652	134.129	0.000	0.000	0.000	3.376	33.759	30.963
225	8.550	28.051	-8.550	-28.051	27.326	1.032	60.240	3.777	5	4	6	5	3	114.551	1.639	1.138	0.501	16.059	0.958	13.089	12.539	7.844	6.766	22.583	4.017	25.688	0.050	0.054	21.370	2.438	22.370	2.794	45.636	0.000	32.992	-0.190	0.000	0.000	0.000	0.000	0.000	2.508	25.078	22.583
226	8.600	28.215	-8.600	-28.215	29.273	0.957	96.610	3.269	5	4	6	5	3	114.551	1.649	1.142	0.506	16.223	0.956	14.022	13.407	8.113	6.999	24.195	3.464	27.625	0.086	0.091	21.997	2.515	22.997	2.729	42.027	0.000	33.312	-0.166	0.000	0.000	0.000	0.000	0.000	2.681	26.814	24.195
227	8.650	28.379	-8.650	-28.379	36.889	0.728	19.010	1.974	6	5	8	6	4	114.551	1.658	1.147	0.511	16.388	0.954	14.136	13.491	9.002	8.591	30.742	2.066	35.231	0.002	0.002	30.670	3.477	31.670	2.476	29.602	36.122	34.408	-0.140	3.656	134.939	0.000	0.000	0.000	3.373	33.727	33.727
228	8.700	28.543	-8.700	-28.543	53.785	0.760	18.380	1.413	7	5	8	6	5	117.733	1.667	1.151	0.517	16.552	0.953	17.175	16.360	11.886	11.321	45.302	1.458	52.118	0.001	0.001	45.252	5.098	46.252	2.254	20.852	46.875	36.200	-0.146	3.055	164.378	0.000	0.000	0.000	4.908	49.080	49.080
229	8.750	28.707	-8.750	-28.707	63.775	1.380	10.460	2.164	7	5	8	6	5	117.733	1.677	1.155	0.522	16.716	0.951	20.366	19.361	14.478	13.764	53.766	2.222	62.099	-0.003	-0.003	53.935	6.078	54.935	2.316	23.129	51.702	37.005	-0.211	2.806	178.999	0.000	0.000	0.000	5.808	58.083	58.083
230	8.800	28.871	-8.800	-28.871	50.731	2.119	46.650	4.177	5	4	8	6	3	114.551	1.687	1.160	0.527	16.880	0.949	24.300	23.058	13.255	11.537	42.303	4.320	49.045	0.018	0.019	41.501	4.721	42.501	2.616	36.130	45.089	35.902	-0.315	3.155	160.107	0.000	0.000	0.000	4.612	46.115	42.303
231	8.850	29.035	-8.850	-29.035	49.476	2.188	31.470	4.422	4	4	8	6	3	114.551	1.696	1.164	0.532	17.044	0.947	31.599	29.928	13.106	11.353	41.061	4.579	47.781	0.009	0.009	40.674	4.646	41.674	2.643	37.484	44.318	35.774	-0.334	3.198	158.310	0.000	0.000	0.000	4.489	44.892	41.061
232	8.900	29.199	-8.900	-29.199	67.661	2.177	25.800	3.218	6	4	8	6	4	114.551	1.705	1.168	0.537	17.208	0.945	25.928	24.512	16.088	15.209	56.472	3.301	65.956	0.004	0.004	56.243	6.405	57.243	2.420	27.215	53.238	37.260	-0.283	2.734	185.069	0.000	0.000	0.000	6.128	61.279	61.279
233	8.950	29.363	-8.950	-29.363	87.142	1.151	3.530	1.321	8	5	9	6	5	120.915	1.715	1.173	0.542	17.372	0.944	20.871	19.692	17.879	16.869	72.861	1.347	85.428	-0.005	-0.005	73.229	8.338	74.229	2.073	15.007	60.435	38.460	-0.186	2.433	212.134	0.000	0.000	0.000	7.877	78.770	78.770
234	9.000	29.527	-9.000	-29.527	139.140	1.131	-4.770	0.813	9	6	9	6	6	124.097	1.725	1.178	0.547	17.537	0.942	26.659	25.102	25.584	24.089	116.711	0.823	137.416	-0.005	-0.005	117.302	13.344	118.302	1.780	7.708	73.788	40.685	-0.184	2.071	288.334	0.000	0.000	0.000	12.551	125.509	125.509
235	9.050	29.691	-9.050	-29.691	141.727	1.523	2.780	1.075	8	6	9	6	5	120.915	1.735	1.183	0.552	17.701	0.940	33.944	31.894	26.766	25.149	118.404	1.088	139.993	-0.003	-0.003	118.798	13.569	119.798	1.855	9.331	74.256	40.763	-0.212	2.062	292.343	0.000	0.000	0.000	12.758	127.576	127.576
236	9.100	29.855	-9.100	-29.855	146.568	2.378	4.490	1.622	8	6	9	6	5	120.915	1.745	1.188	0.557	17.865	0.938	35.103	32.917	28.902	27.102	121.995	1.642	144.824	-0.003	-0.003	122.347	14.028	123.347	1.971	12.173	75.161	40.914	-0.260	2.043	299.525	0.000	0.000	0.000	13.167	131.666	131.666
237	9.150	30.019	-9.150	-30.019	169.926	4.511	2.490	2.655	7	5	9	6	8	117.733	1.755	1.192	0.563	18.029	0.936	54.263	50.783	35.120	32.868	141.108	2.682	168.171	-0.003	-0.003	141.515	16.271	142.515	2.092	15.554	79.343	41.611	-0.354	1.957	332.681	0.000	0.000	0.000	15.235	152.350	152.350
238	9.200	30.183	-9.200	-30.183	232.504	7.260	13.420	3.123	12	8	9	7	8	120.915	1.765	1.197	0.568	18.193	0.934	111.369	104.024	0.000	0.000	192.853	3.146	230.740	-0.001	-0.001	192.977	22.234	193.977	2.068	0.000	88.274	43.100	-0.433	0.000	0.000	0.000	0.000	0.000	20.805	208.048	208.048
239	9.250	30.347	-9.250	-30.347	246.694	9.070	213.760	3.677	12	8	9	7	8	120.915	1.775	1.202	0.573	18.357	0.932	118.167	110.153	0.000	0.000	203.888	3.703	244.921	0.025	0.025	198.810	22.994	199.810	2.114	0.000	89.915	43.373	-0.494	0.000	0.000	0.000	0.000	0.000	22.031	220.305	220.305
240	9.300	30.511	-9.300	-30.511	302.081	11.661	413.500	3.860	12	8	9	7	8	120.915	1.785	1.207	0.578	18.521	0.930	144.697	134.615	0.000	0.000	248.993	3.883	300.298	0.041	0.041	238.770	27.703	239.770	2.087	0.000	0.000	44.331	-0.541	0.000	0.000	0.000	0.000	0.000	26.923	269.230	269.230
241	9.350	30.675	-9.350	-30.675	260.452	12.242	14.690	4.700	11	9	10	7	8	130.461	1.795	1.212	0.583	18.686	0.928	249.513	231.630	0.000	0.000	213.548	4.733	258.658	-0.000	-0.000	213.651	24.907	214.651	2.194	0.000	91.352	43.613	-0.645	0.000	0.000	0.000	0.000	0.000	23.163	231.630	231.630
242	9.400	30.840	-9.400	-30.840	211.838	11.496	867.930	5.427	11	9	0	6	8	130.461	1.806	1.217	0.588	18.850	0.926	202.941	187.964	0.000	0.000	172.609	5.473	210.033	0.125	0.126	150.828	17.699	151.828	2.295	0.000	85.364	42.615	-0.718	1.965	416.402	0.000	0.000	0.000	18.796	187.964	187.964
243	9.450	31.004	-9.450	-31.004	214.035	6.739	1210.170	3.149	12	8	0	0	8	120.915	1.816	1.223	0.593	19.014	0.924	102.523	94.755	0.000	0.000	173.665	3.175	212.220	0.174	0.175	143.239	16.886	144.239	2.094	0.000	85.599	42.654	-0.397	1.975	422.857	0.000	0.000	0.000	18.951	189.509	189.509
244	9.500	31.168	-9.500	-31.168	184.733	4.258	482.620	2.305	7	5	8	6	5	117.733	1.826	1.227	0.598	19.178	0.922	58.991	54.418	37.188	34.305	149.109	2.328	182.908	0.078	0.079	137.316	16.254	138.316	2.025	13.623	81.324	41.941	-0.323	1.932	356.993	0.000	0.000	0.000	16.325	163.254	163.254
245	9.550	31.332	-9.550	-31.332	497.272	1.194	480.950	0.240	10	7	10	7	7	127.279	1.836	1.232	0.604	19.342	0.921	79.398	73.096	72.088	66.366	402.272	0.241	495.437	0.029	0.029	390.573	46.201	391.573	1.024	0.000	0.000	46.662	-0.185	0.000	0.000	0.000	0.000	0.000	43.857	438.574	438.574
246	9.600	31.496	-9.600	-31.496	491.984	0.010	37.540	0.002	10	0	10	7	0	127.279	1.846	1.237	0.609	19.506	0.919	78.554	72.163	0.000	0.000	396.259	0.002	490.139	0.001	0.001	395.804	47.020	396.804	1.690	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	43.298	432.976	432.976
247	9.650	31.660	-9.650	-31.660	702.930	0.010	30.490	0.001	10	0	10	7	0	127.279	1.857	1.243	0.614	19.670	0.917	112.235	102.883	0.000	0.000	564.366	0.001	701.075	0.000	0.000	564.094	67.250	565.094	1.762	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	61.730	617.296	617.296

ConeTec CPT Interpretations	
Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011	
DAS Version: W47	
Interpretation Format:	All but Liquefaction Parameters (NLI)
Run ID:	1347638908
Job No:	12-972
Client:	TertaTech
Project:	Dump Road
Facility:	Dump Road
Sounding ID:	DR-CPT-16
Cone ID:	167:T1500F15U500
Operator:	TS-TW
CPT Date:	Aug-30-2012
CPT Time:	08:40
CPT File:	972CP16.COR
Tip Units:	tsf
Sleeve Units:	tsf
PP Units:	ft
Tip Conversion to bar:	0.9580
Sleeve Conversion to bar:	0.9580
PP Conversion to meters:	0.3050
Col 5 (Extra Module) Parameter	N/A
Col 5 (Extra Module) Units	N/A
Coord Source:	
Coord Type:	
UTM Zone:	N/A
Easting / Long:	76.410220
Northing / Lat:	39.325630
Elevation:	0.000
Tip Net Area Ratio:	0.80
Unit Weight of Soil Base:	Based on Soil Zones
Unit Weight of Soil (Def):	18.64 kN/m^3 118.62 pcf
Unit Weight of Water:	9.81 kN/m^3 62.43 pcf
Equilibrium U Profile Used:	No
Soil Unit Weight Profile Used:	No
Water Table	2.13 m 7.00 ft
Averaging Interval:	0.00 m 0.00 ft
Su Factors Nkt and Ndu:	15.0 8.0
Cn Exp. and Limits:	0.50 0.00 1.70
Qc1 Exp. and Limits:	0.50 0.00 1.70
State Parameter M:	1.20
NC Su / p':	0.30
Relative Density Method:	All Sands - Jamilokowski (1985)
Phi Angle Method:	Kulhawy and Mayne (1990)
Youngs Modulus Sand Type:	Recent
N160lc Method:	Based on qc1n

Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (Ic)	N160 (Ic)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
m	ft	m	ft	tsf	tsf	ft	%						pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa			%	%	deg			tsf	tsf	tsf		MPa		
0.050	0.164	-0.050	-0.164	7.088	0.197	30.190	2.779	4	8	4	0	8	114.551	0.009	0.009	0.000	0.000	1.700	4.527	7.696	0.000	0.000	753.528	2.783	7.079	0.133	0.133	653.221	0.589	654.221	2.927	0.000	57.692	29.286	-0.549	0.000	0.000	0.000	0.000	1.154	11.544	11.544
0.100	0.328	-0.100	-0.328	17.812	0.472	21.140	2.650	5	8	6	7	8	114.551	0.019	0.019	0.000	0.000	1.700	8.532	14.504	0.000	0.000	946.993	2.653	17.793	0.037	0.037	911.874	1.643	912.874	2.595	0.000	74.168	33.688	-0.574	0.000	0.000	0.000	0.000	2.901	29.009	29.009
0.150	0.492	-0.150	-0.492	49.933	0.673	6.890	1.348	7	0	8	0	0	117.733	0.028	0.028	0.000	0.000	1.700	15.945	27.107	0.000	0.000	1762.533	1.349	49.905	0.004	0.004	1754.937	4.763	1755.937	2.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.132	81.321	81.321
0.200	0.656	-0.200	-0.656	80.078	0.756	1.250	0.944	8	0	9	0	0	120.915	0.038	0.038	0.000	0.000	1.700	19.179	32.604	0.000	0.000	2100.768	0.945	80.040	0.000	0.000	2099.744	7.668	2100.744	1.807	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.041	130.415	130.415
0.250	0.820	-0.250	-0.820	100.389	0.801	3.060	0.798	8	0	9	0	0	120.915	0.048	0.048	0.000	0.000	1.700	24.043	40.873	0.000	0.000	2089.712	0.798	100.341	0.001	0.001	2087.723	9.608	2088.723	1.685	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.349	163.494	163.494
0.300	0.984	-0.300	-0.984	105.121	0.889	1.840	0.846	8	0	9	0	0	120.915	0.058	0.058	0.000	0.000	1.700	25.177	42.800	0.000	0.000	1813.529	0.846	105.064	0.001	0.001	1812.538	10.065	1813.538	1.687	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.120	171.201	171.201
0.350	1.148	-0.350	-1.148	103.058	1.061	1.240	1.030	8	0	9	0	0	120.915	0.068	0.068	0.000	0.000	1.700	24.682	41.960	0.000	0.000	1517.913	1.030	102.990	0.000	0.000	1517.342	9.869	1518.342	1.752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.784	167.840	167.840
0.400	1.312	-0.400	-1.312	103.303	1.136	2.080	1.100	8	0	9	0	0	120.915	0.078	0.078	0.000	0.000	1.700	24.741	42.060	0.000	0.000	1327.379	1.101	103.225	0.001	0.001	1326.544	9.890	1327.544	1.772	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.824	168.239	168.239
0.450	1.476	-0.450	-1.476	103.189	1.284	1.480	1.244	8	0	9	0	0	120.915	0.088	0.088	0.000	0.000	1.700	24.714	42.013	0.000	0.000	1175.849	1.245	103.102	0.000	0.000	1175.322	9.881	1176.322	1.811	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.805	168.054	168.054
0.500	1.640	-0.500	-1.640	103.902	1.708	0.400	1.644	7	0	9	0	0	117.733	0.098	0.098	0.000	0.000	1.700	33.180	56.405	0.000	0.000	1065.009	1.645	103.805	0.000	0.000	1064.881	9.953	1065.881	1.899	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.922	169.216	169.216
0.550	1.804	-0.550	-1.804	104.396	1.745	4.240	1.672	7	8	9	7	8	117.733	0.107	0.107	0.000	0.000	1.700	33.337	56.673	0.000	0.000	973.537	1.673	104.289	0.001	0.001	972.301	9.989	973.301	1.903	0.000	0.000	42.136	-0.476	1.878	196.144	0.000	0.000	0.000	17.002	170.020	170.020
0.600	1.968	-0.600	-1.968	94.829	1.953	-0.090	2.059	7	8	9	7	8	117.733	0.117	0.117	0.000	0.000	1.700	30.282	51.480	0.000	0.000	811.037	2.062	94.713	-0.000	-0.000	811.061	9.085	812.061	1.999	0.000	0.000	41.676	-0.497	1.899	180.182	0.000	0.000	0.000	15.444	154.439	154.439
0.650	2.133	-0.650	-2.133	91.380	2.074	1.600	2.270	7	8	9	7	8	117.733	0.126	0.126	0.000	0.000	1.700	29.181	49.607	0.000	0.000	721.741	2.273	91.254	0.001	0.001	721.346	8.749	722.346	2.042	0.000	0.000	93.715	41.499	-0.506	1.915	175.099	0.000	0.000	0.000	14.882	148.821	148.821
0.700	2.297	-0.700	-2.297	85.758	2.491	1.310	2.905	6	8	9	7	8	114.551	0.136	0.136	0.000	0.000	1.700	32.863	55.866	0.000	0.000	629.759	2.909	85.622	0.000	0.000	629.458	8.212	630.458	2.143	0.000	90.854	41.196	-0.558	1.947	167.080	0.000	0.000	0.000	13.967	139.666	139.666
0.750	2.461	-0.750	-2.461	82.733	2.635	-2.740	3.185	6	8	9	7	8	114.551	0.145	0.145	0.000	0.000	1.700	31.703	53.896	0.000	0.000	568.179	3.191	82.588	-0.001	-0.001	568.767	7.934	569.767	2.184	0.000	88.867	41.024	-0.578	1.967	162.804	0.000	0.000	0.000	13.474	134.739	134.739
0.800	2.625	-0.800	-2.625	99.041	2.783	4.920	2.810	6	8	9	7	8	114.551	0.155	0.155	0.000	0.000	1.700	37.952	64.519	0.000	0.000	639.007	2.814	98.886	0.002	0.002	638.014	9.473	639.014	2.093	0.000	93.126	41.884	-0.549	1.885	186.756	0.000	0.000	0.000	16.130	161.298	161.298
0.850	2.789	-0.850	-2.789	97.785	2.824	0.760	2.888	6	8	9	7	8	114.551	0.164	0.164	0.000	0.000	1.700	37.471	63.701	0.000	0.000	594.725	2.893	97.621	0.000	0.000	594.581	9.366	595.581	2.106	0.000	91.916	41.823	-0.549	1.888	184.739	0.000	0.000	0.000	15.925	159.252	159.252
0.900	2.953	-0.900	-2.953	148.462	2.424	3.470	1.633	8	8	9	7	8	120.915	0.174	0.174	0.000	0.000	1.700	35.557	60.446	0.000	0.000	853.212	1.635	148.288	0.001	0.001	852.589	14.212	853.589	1.799	0.000	0.000	43.818	-0.459	0.000	0.000	0.000	0.000	0.000	24.178	241.785	241.785
0.950	3.117	-0.950	-3.117	113.296	1.965	-2.180	1.734	7	8	9	7	8	117.733	0.184	0.184	0.000	0.000	1.700	36.179	61.505	0.000	0.000	616.131	1.737	113.113	-0.001	-0.001	616.502	10.860	617.502	1.892	0.000	94.532	42.526	-0.435	1.910	216.522	0.000	0.000	0.000	18.451	184.515	184.515
1.000	3.281	-1.000	-3.281	57.489	1.783	3.110	3.101	6	8	8	7	8	114.551	0.193	0.193	0.000	0.000	1.700	22.030	37.451	0.000	0.000	296.702	3.112	57.296	0.002	0.002	296.199	5.498	297.199	2.276	0.000	74.362	39.285	-0.485	2.200	126.527	0.000	0.000	0.000	9.363	93.627	93.627
1.050	3.445	-1.050	-3.445	42.233	1.739	10.170	4.118	5	8	8	7	8	114.551	0.203	0.203	0.000	0.000	1.700	20.230	34.391	0.000	0.000	207.555	4.137	42.031	0.008	0.008	205.987	4.016	206.987	2.457	0.000	64.841	37.812	-0.551	2.504	105.813	0.000	0.000	0.000	6.878	68.781	68.781
1.100	3.609	-1.100	-3.609	35.067	1.383	10.810	3.944	5	8	7	6	8	114.551	0.212	0.212	0.000	0.000	1.700	16.797	28.555	0.000	0.000	164.491	3.968	34.856	0.010	0.010	162.899	3.327	163.899	2.498	0.000	58.862	36.924	-0.494	2.747	96.373	0.000	0.000	0.000	5.711	57.111	57.111
1.150	3.773	-1.150	-3.773	34.012	1.175	21.160	3.455	5	8	7	6	8	114.551	0.221	0.221	0.000	0.000	1.700	16.292	27.696	0.000	0.000	152.696	3.477	33.791	0.019	0.020	149.712	3.195	150.712	2.466	0.000	57.364	36.778	-0.430	2.790	94.948	0.000	0.000	0.000	5.539	55.392	55.392
1.200	3.937	-1.200	-3.937	25.816	0.900	4.110	3.486	5	8	7	6	8	114.551	0.231	0.231	0.000	0.000	1.700	12.366	21.022	0.000	0.000	110.907	3.518	25.585	0.005	0.005	110.351	2.461	111.351	2.555	0.000	48.865	35.461	-0.392	3.210	82.906	0.000	0.000	0.000	4.204	42.043	42.043
1.250	4.101	-1.250	-4.101	21.784	0.666	2.290	3.057	5	5	7	6	4	114.551	0.240	0.240	0.000	0.000	1.700	10.435	17.739	5.567	9.464	89.736	3.091	21.544	0.003	0.003	89.439	2.080	90.439	2.571	33.969	43.426	34.650	-0.329	3.480	75.843	0.000	0.000	0.000	3.548	35.478	35.478
1.300	4.265	-1.300	-4.265	19.750	0.530	3.250	2.684	5	5	6	6	4	114.551	0.250	0.250	0.000	0.000	1.700	9.460	16.083	5.036	8.561	78.166	2.718	19.501	0.005	0.005	77.760	1.882	78.760	2.567	33.758	40.066	34.181	-0.285	3.635	71.822	0.000	0.000	0.000	3.217	32.165	32.165
1.350	4.429	-1.350	-4.429	18.233	0.662	2.100	3.631	4	4	6	6	4	114.551	0.259	0.259	0.000	0.000	1.700	11.645	19.796	4.922	8.368	69.433	3.683	17.974	0.004	0.004	69.180	1.740	70.180	2.680	39.375	37.245	33.799	-0.341	0.000	0.000	0.000	0.000	2.969	29.694	29.694
1.400	4.593	-1.400	-4.593	15.933	0.546	3.750	3.427	4	4	6	6	4	114.551	0.268	0.268	0.000	0.000	1.700	10.176	17.299	4.366	7.422	58.394	3.485	15.665	0.007	0.007	57.957	1.515	58.957	2.708	40.870	32.870	33.155	-0.301	0.000	0.000	0.000	0.000	2.595	25.949	25.949
1.450	4.757	-1.450	-4.757	14.098	0.497	17.380	3.525	4	4	6	6	4	114.551	0.278	0.278	0.000	0.000	1.700	9.004	15.307	3.966	6.742	49.776	3.596	13.821	0.038	0.039	47.822	1.299	48.822	2.757	43.560	0.000	32.571	-0.282	0.000	0.000	0.000	0.000	2.296	22.961	22.961
1.500	4.921	-1.500	-4.921	19.842	0.400	32.400	2.016	6	5	6	6	5	114.551	0.287	0.287	0.000	0.000	1.700	7.604	12.926	4.869	8.278	68.123	2.045	19.555	0.051	0.052	64.600	1.804	65.600	2.487	30.124	38.189	34.203	-0.220	3.628	72.011	0.000	0.000	0.000	3.232	32.315	32.315
1.550	5.085	-1.550	-5.085	28.306	0.392	5.750	1.385	6	6	7	6	5	114.551	0.297	0.297	0.000	0.000	1.700	10.847	18.440	6.284	10.683	94.483	1.400	28.009	0.006	0.006	93.877	2.695	94.877	2.265	21.234	47.910	35.901	-0.215	3.066	86.814	0.000	0.000	0.000	4.610	46.099	46.099
1.600	5.249	-1.600	-5.249	24.424	0.359	-1.030	1.470	6	5	7	6	5	114.551	0.306	0.306	0.000	0.000	1.700	9.359	15.910	5.583	9.491	78.856	1.489	24.118	-0.001	-0.001	78.961	2.343	79.961	2.332	23.724	43.234	35.196	-0.204	3.298	80.584	0.000	0.000	0.000	3.978	39.776	39.776
1.650	5.413	-1.650	-5.413	19.789	0.370	-1.780	1.870	6	5	7	6	5	114.551	0.315	0.315	0.000	0.000	1.700	7.583	12.891	4.814	8.184	61.774	1.900	19.474	-0.003	-0.003	61.950	1.901	62.950	2.469	29.306	36.769	34.191	-0.206	3.632	71.901	0.000	0.000	0.000	3.223	32.228	32.228
1.700	5.577	-1.700	-5.577	11.417	0.467	-2.100	4.090	3	4	6	6	3	111.369	0.325	0.325	0.000	0.000	1.700	10.937	18.594	3.073	9.605	34.183	4.210	11.092	-0.006	-0.006	34.385	1.100	35.385	2.674	39.087	0.000	31.563	-0.276	0.000	0.000	0.000	0.000	1.859	18.594	34.183
1.750	5.741	-1.750	-5.741	11.655	0.306	0.770	2.626	5	4	6	6	4	114.551	0.334	0.334	0.000	0.000	1.700	5.583	9.491	3.256	5.536	33.919	2.703	11.321	0.002	0.002	33.847	1.114	34.847	2.744	42.861	0.000	31.662	-0.183	0.000	0.000	0.000	0.000	1.898	18.981	18.981
1.800	5.905	-1.800	-5.905	23.495	0.331	3.970	1.409	6	5	7	6	5	114.551	0.343	0.343	0.000	0.000	1.700	9.003	15.305	5.378	9.143	67.465	1.430	23.152	0.005	0.005	67.104	2.239	68.104	2.335	23.846	40.473	35.011	-0.183	3.360	78.970	0.000	0.000	0.000	3.826	38.264	38.264
1.850	6.069	-1.850	-6.069	29.613	0.323	2.050	1.091	7	6	7	6	5	117.733	0.353	0.353	0.000	0.000	1.700	9.456	16.076	6.365	10.821	82.963	1.104	29.260	0.002	0.002	82.782	2.831	83.782	2.188	18.594	46.714	36.116	-0.179	2.996	88.761	0.000	0.000	0.000	4.823	48.227	48.227
1.900	6.234	-1.900	-6.234	22.784	0.335	-0.960	1.470	6	5	7	6	5	114.551	0.362	0.362	0.000	0.000	1.698	8.731	14.821	5.268	8.943	61.902	1.494	22.422	-0.001	-0.001	61.985	2.186	62.985	2.358	24.720	38.818	34.857	-0.180	3.411	77.748	0.000	0.000	0.000	3.705	37.054	37.054
1.950	6.398	-1.950	-6.398	18.942	0.459	-1.340	2.423	5	5	6	6	4	114.551	0.372	0.372	0.000	0.000	1.676	9.073	15.206	4.812	8.065	49.972	2.472	18.570	-0.002	-0.002	50.085	1.819	51.085	2.559	33.402	33.157	33.914	-0.217	3.722	70.537	0.000	0.000	0.000	3.041	30.413	30.413

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
94	2.000	6.562	-2.000	-6.562	11.713	0.423	-1.070	3.611	4	4	6	5	3	114.551	0.381	0.381	0.000	0.000	1.655	7.481	12.382	3.168	8.396	29.743	3.733	11.332	-0.003	-0.003	29.831	1.125	30.831	2.683	39.550	0.000	31.558	-0.223	0.000	0.000	0.000	0.000	0.000	1.857	18.574	29.743
95	2.050	6.726	-2.050	-6.726	41.908	0.407	6.040	0.971	7	6	8	6	5	117.733	0.391	0.391	0.000	0.000	1.635	13.383	21.879	8.518	13.926	106.311	0.980	41.517	0.004	0.005	105.828	3.997	106.828	2.049	14.318	55.207	37.589	-0.191	2.562	107.399	0.000	0.000	0.000	6.564	65.637	65.637
96	2.100	6.890	-2.100	-6.890	71.869	0.452	6.250	0.629	8	6	8	7	6	120.915	0.400	0.400	0.000	0.000	1.615	17.213	27.795	13.084	21.128	178.532	0.632	71.469	0.003	0.003	178.045	6.866	179.045	1.752	7.131	70.313	40.106	-0.199	2.080	149.539	0.000	0.000	0.000	11.118	111.179	111.179
97	2.150	7.054	-2.150	-7.054	82.323	0.481	3.660	0.584	8	6	9	7	6	120.915	0.410	0.409	0.002	0.053	1.598	19.716	31.514	14.662	23.435	200.476	0.587	81.913	0.001	0.001	200.200	7.876	201.200	1.689	5.914	73.912	40.706	-0.203	2.005	165.097	0.000	0.000	0.000	12.605	126.055	126.055
98	2.200	7.218	-2.200	-7.218	86.713	0.531	2.130	0.612	8	6	9	7	6	120.915	0.420	0.414	0.007	0.217	1.589	20.768	33.001	15.422	24.507	208.746	0.615	86.293	0.001	0.001	208.602	8.301	209.602	1.685	5.839	75.234	40.926	-0.211	1.978	171.627	0.000	0.000	0.000	13.200	132.005	132.005
99	2.250	7.382	-2.250	-7.382	90.130	0.594	1.590	0.659	8	6	9	7	6	120.915	0.430	0.418	0.012	0.381	1.580	21.586	34.104	16.074	25.396	214.498	0.662	89.700	0.000	0.000	214.408	8.630	215.408	1.693	5.987	76.177	41.084	-0.220	1.960	176.746	0.000	0.000	0.000	13.642	136.417	136.417
100	2.300	7.546	-2.300	-7.546	91.779	0.663	1.520	0.722	8	6	9	7	6	120.915	0.440	0.423	0.017	0.545	1.571	21.981	34.531	16.485	25.897	215.943	0.726	91.340	0.000	0.000	215.871	8.788	216.871	1.714	6.375	76.533	41.143	-0.229	1.953	179.359	0.000	0.000	0.000	13.812	138.124	138.124
101	2.350	7.710	-2.350	-7.710	92.789	0.693	1.440	0.747	8	6	9	7	6	120.915	0.450	0.428	0.022	0.709	1.562	22.223	34.714	16.709	26.102	215.858	0.750	92.339	0.000	0.000	215.805	8.885	216.805	1.721	6.517	76.685	41.168	-0.232	1.951	181.067	0.000	0.000	0.000	13.886	138.858	138.858
102	2.400	7.874	-2.400	-7.874	93.439	0.699	1.460	0.748	8	6	9	7	6	120.915	0.460	0.433	0.027	0.873	1.553	22.379	34.763	16.826	26.138	214.945	0.752	92.979	0.000	0.000	214.902	8.947	215.902	1.721	6.517	76.725	41.175	-0.232	1.950	182.264	0.000	0.000	0.000	13.905	139.053	139.053
103	2.450	8.038	-2.450	-8.038	95.059	0.716	1.470	0.753	8	6	9	7	6	120.915	0.470	0.438	0.032	1.037	1.545	22.767	35.172	17.106	26.427	216.269	0.757	94.589	0.000	0.000	216.238	9.102	217.238	1.719	6.479	77.060	41.231	-0.233	1.944	184.833	0.000	0.000	0.000	14.069	140.686	140.686
104	2.500	8.202	-2.500	-8.202	98.481	0.742	1.730	0.753	8	6	9	7	6	120.915	0.480	0.442	0.037	1.201	1.536	23.586	36.239	17.661	27.136	221.639	0.757	98.001	0.000	0.000	221.601	9.429	222.601	1.709	6.289	77.917	41.374	-0.235	1.928	189.964	0.000	0.000	0.000	14.496	144.958	144.958
105	2.550	8.366	-2.550	-8.366	102.473	0.787	2.130	0.768	8	6	9	7	6	120.915	0.490	0.447	0.043	1.366	1.528	24.542	37.506	18.339	28.026	228.171	0.772	101.984	0.000	0.000	228.117	9.811	229.117	1.703	6.175	78.902	41.538	-0.240	1.912	195.975	0.000	0.000	0.000	15.002	150.023	150.023
106	2.600	8.530	-2.600	-8.530	105.424	0.825	2.210	0.783	8	6	9	7	6	120.915	0.500	0.452	0.048	1.530	1.520	25.249	38.380	18.852	28.657	232.257	0.786	104.924	0.000	0.000	232.210	10.093	233.210	1.701	6.133	79.562	41.648	-0.243	1.902	200.565	0.000	0.000	0.000	15.352	153.521	153.521
107	2.650	8.694	-2.650	-8.694	108.945	0.857	2.360	0.787	8	6	9	7	6	120.915	0.510	0.457	0.053	1.694	1.512	26.092	39.453	19.431	29.382	237.507	0.790	108.435	0.000	0.000	237.462	10.430	238.462	1.693	5.991	80.353	41.780	-0.246	1.891	206.140	0.000	0.000	0.000	15.781	157.813	157.813
108	2.700	8.858	-2.700	-8.858	111.684	0.900	2.300	0.806	9	6	9	7	6	124.097	0.520	0.462	0.058	1.858	1.504	21.399	32.183	19.924	29.965	240.886	0.810	111.165	0.000	0.000	240.856	10.692	241.856	1.694	6.003	80.911	41.873	-0.249	1.885	210.667	0.000	0.000	0.000	16.092	160.915	160.915
109	2.750	9.022	-2.750	-9.022	112.635	0.955	2.420	0.848	8	6	9	7	6	120.915	0.530	0.467	0.063	2.022	1.496	26.976	40.356	20.190	30.204	240.359	0.852	112.106	0.000	0.000	240.332	10.783	241.332	1.708	6.262	81.002	41.888	-0.254	1.885	212.367	0.000	0.000	0.000	16.143	161.426	161.426
110	2.800	9.186	-2.800	-9.186	112.506	0.965	2.500	0.858	8	6	9	7	6	120.915	0.540	0.471	0.068	2.186	1.488	26.945	40.104	20.204	30.072	237.616	0.862	111.966	0.000	0.000	237.595	10.771	238.595	1.713	6.365	80.822	41.858	-0.254	1.886	212.311	0.000	0.000	0.000	16.042	160.417	160.417
111	2.850	9.350	-2.850	-9.350	111.988	0.980	2.920	0.875	8	6	9	7	6	120.915	0.550	0.476	0.073	2.350	1.481	26.821	39.718	20.174	29.875	234.114	0.879	111.439	0.000	0.000	234.077	10.720	235.077	1.722	6.538	80.545	41.812	-0.255	1.889	211.655	0.000	0.000	0.000	15.887	158.873	158.873
112	2.900	9.514	-2.900	-9.514	111.637	0.966	2.740	0.865	8	6	9	7	6	120.915	0.559	0.481	0.078	2.515	1.473	26.737	39.396	20.106	29.626	231.028	0.870	111.078	0.000	0.000	231.013	10.687	232.013	1.721	6.525	80.311	41.773	-0.253	1.892	211.289	0.000	0.000	0.000	15.758	157.583	157.583
113	2.950	9.678	-2.950	-9.678	109.005	0.810	2.400	0.743	9	6	9	7	6	124.097	0.570	0.486	0.084	2.679	1.466	20.885	30.617	19.402	28.442	223.245	0.747	108.436	-0.000	-0.000	223.262	10.436	224.262	1.687	5.880	79.481	41.634	-0.235	1.903	207.506	0.000	0.000	0.000	15.309	153.085	153.085
114	3.000	9.842	-3.000	-9.842	107.486	0.843	2.500	0.784	8	6	9	7	6	120.915	0.580	0.491	0.089	2.843	1.459	25.743	37.548	19.274	28.113	217.886	0.789	106.906	-0.000	-0.000	217.907	10.290	218.907	1.709	6.284	78.934	41.543	-0.238	1.911	205.506	0.000	0.000	0.000	15.019	150.192	150.192
115	3.050	10.006	-3.050	-10.006	102.034	0.877	-2.540	0.860	8	6	9	7	6	120.915	0.589	0.496	0.094	3.007	1.452	24.437	35.471	18.585	26.976	204.753	0.865	101.445	-0.002	-0.002	205.103	9.782	206.103	1.754	7.161	77.303	41.271	-0.241	1.939	197.941	0.000	0.000	0.000	14.188	141.882	141.882
116	3.100	10.170	-3.100	-10.170	101.749	0.874	1.400	0.859	8	6	9	7	6	120.915	0.599	0.500	0.099	3.171	1.445	24.369	35.201	18.548	26.794	202.200	0.864	101.150	-0.001	-0.001	202.310	9.743	203.310	1.756	7.209	77.084	41.235	-0.240	1.943	197.794	0.000	0.000	0.000	14.081	140.806	140.806
117	3.150	10.335	-3.150	-10.335	101.486	0.896	2.600	0.883	8	6	9	7	6	120.915	0.609	0.505	0.104	3.335	1.438	24.306	34.943	18.568	26.694	199.740	0.888	100.877	-0.000	-0.000	199.785	9.715	200.785	1.766	7.418	76.873	41.200	-0.241	1.947	197.681	0.000	0.000	0.000	13.977	139.774	139.774
118	3.200	10.499	-3.200	-10.499	101.729	0.924	3.120	0.908	8	6	9	7	6	120.915	0.619	0.510	0.109	3.499	1.431	24.364	34.862	18.671	26.716	198.319	0.914	101.110	-0.000	-0.000	198.342	9.736	199.342	1.775	7.602	76.807	41.189	-0.243	1.948	198.281	0.000	0.000	0.000	13.945	139.448	139.448
119	3.250	10.663	-3.250	-10.663	104.602	0.908	3.510	0.868	8	6	9	7	6	120.915	0.629	0.515	0.114	3.664	1.424	25.052	35.679	19.060	27.144	202.032	0.873	103.973	-0.000	-0.000	202.042	10.010	203.042	1.755	7.181	77.471	41.299	-0.240	1.936	202.603	0.000	0.000	0.000	14.272	142.716	142.716
120	3.300	10.827	-3.300	-10.827	113.696	0.889	4.100	0.782	9	6	9	7	6	124.097	0.639	0.520	0.119	3.828	1.417	21.784	30.877	20.319	28.800	217.600	0.786	113.057	0.000	0.000	217.583	10.880	218.583	1.699	6.098	79.723	41.675	-0.237	1.899	216.045	0.000	0.000	0.000	15.439	154.386	154.386
121	3.350	10.991	-3.350	-10.991	127.479	0.917	4.660	0.719	9	6	9	7	6	124.097	0.649	0.525	0.125	3.992	1.411	24.425	34.453	22.322	31.486	241.756	0.723	126.830	0.000	0.000	241.716	12.199	242.716	1.639	5.021	82.865	42.198	-0.239	1.879	239.632	0.000	0.000	0.000	17.227	172.266	172.266
122	3.400	11.155	-3.400	-11.155	153.096	1.055	5.720	0.689	9	6	9	7	8	124.097	0.660	0.530	0.130	4.156	1.404	29.333	41.178	26.185	36.759	287.791	0.692	152.436	0.000	0.000	287.699	14.649	288.699	1.569	3.862	87.976	43.050	-0.251	0.000	0.000	0.000	0.000	0.000	20.589	205.892	205.892
123	3.450	11.319	-3.450	-11.319	166.757	1.165	5.910	0.699	9	6	9	7	8	124.097	0.670	0.535	0.135	4.320	1.397	31.951	44.640	28.319	39.567	310.598	0.701	166.087	0.000	0.000	310.505	15.958	311.505	1.547	3.528	90.289	43.436	-0.259	0.000	0.000	0.000	0.000	0.000	22.320	223.202	223.202
124	3.500	11.483	-3.500	-11.483	176.256	1.266	5.690	0.718	9	6	9	7	8	124.097	0.680	0.540	0.140	4.484	1.391	33.771	46.962	29.859	41.522	325.266	0.721	175.576	0.000	0.000	325.196	16.868	326.196	1.540	3.414	91.742	43.678	-0.266	0.000	0.000	0.000	0.000	0.000	23.481	234.808	234.808
125	3.550	11.647	-3.550	-11.647	178.154	1.301	5.390	0.730	9	6	9	7	8	124.097	0.690	0.545	0.145	4.648	1.384	34.134	47.246	30.212	41.817	325.712	0.733	177.464	0.000	0.000	325.669	17.051	326.669	1.543	3.462	91.916	43.707	-0.268	0.000	0.000	0.000	0.000	0.000	23.623	236.232	236.232
126	3.600	11.811	-3.600	-11.811	180.200	1.332	4.800	0.739	9	6	9	7	8	124.097	0.700	0.550	0.150	4.813	1.378	34.526	47.569	30.575	42.125	326.419	0.742	179.500	-0.000	-0.000	326.420	17.249	327.420	1.544	3.487	92.111	43.739	-0.269	0.000	0.000	0.000	0.000	0.000	23.784	237.844	237.844
127	3.650	11.975	-3.650	-11.975	170.976	1.277	5.750	0.747	9	6	9	7	8	124.097	0.710	0.555	0.155	4.977	1.371	32.759	44.928	29.210	40.060	306.805	0.750	170.266	0.000	0.000	306.761	16.362	307.761	1.565	3.808	90.473	43.466	-0.264	0.000	0.000	0.000	0.000	0.000	22.464	224.639	224.639
128	3.700	12.139	-3.700	-12.139	159.976	1.151	5.810	0.719	9	6	9	7	8	124.097	0.721	0.560	0.160	5.141	1.365	30.651	41.847	27.431	37.451	284.375	0.723	159.256	0.000	0.000	284.337	15.308	285.337	1.576	3.983	88.437	43.127	-0.254	0.000	0.000	0.000	0.000	0.000	20.924	209.236	209.236
129	3.750	12.303	-3.750	-12.303	146.510	1.014	6.330	0.692	9	6	9	7	6	124.097	0.731	0.565	0.166	5.305	1.359	28.071	38.153	25.276	34.353	257.980	0.696	145.779	0.000	0.000	257.923	14.017	258.923	1.595	4.277	85.788	42.685	-0.241	1.948	285.531	0.000	0.000	0.000	19.076	190.763	190.763
130	3.800	12.467	-3.800	-12.467	134.446	0.855	5.750	0.636	9	6	9	7	6	124.097	0.741	0.570	0.171	5.469	1.353	25.760	34.855	23.240	31.445	234.514	0.639	133.705	0.000	0.000	234.499	12.863	235.499	1.601	4.373	83.197	42.254	-0.225	1.881	252.990	0.000	0.000	0.000	17.428	174.277	174.277
131	3.850	12.631	-3.850	-12.631	129.367	0.766	4.330	0.592	9	6	9	7	6	124.097	0.751	0.575	0.176	5.633	1.347	24.787	33.391	22.324	30.073	223.605	0.596	128.616	-0.000	-0.000	223.675	12.380	224.675	1.596	4.290	81.967	42.049	-0.214	1.879	243.142	0.000	0.000	0.000	16.695	166.955	166.955
132	3.900	12.795	-3.900	-12.795	129.331	0.796	3.300	0.615	9	6	9	7	6	124.097	0.761	0.580	0.181	5.797	1.341	24.780	33.236	22.408	30.055	221.576	0.619	128.570	-0.001	-0.001	221.710	12.380	222.710	1.608	4.489	81.833	42.026	-0.217	1.879	243.136	0.000	0.000	0.000	16.618	166.179	166.179
133	3.950	12.959	-3.950	-12.959	139.895	0.443	0.800	0.317	9	7	9	7	6	124.097	0.772	0.586	0.186	5.962	1.335	26.804	35.795	22.777	30.417	237.693	0.318	139.124	-0.001	-0.001	237.968	13.400	238.968	1.416	1.717	83.960	42.381	-0.165	1.890	264.518	0.000	0.000	0.000	17.898	178.975	178.975
134	4.000	13.123	-4.000	-13.123	147.203	0.476	-7.550	0.323	9	7	9	7	6	124.097	0.782	0.591	0.191	6.126	1.330	28.204	37.503	23.872	31.743	248.018	0.325	146.421	-0.003	-0.003	248.741	14.125	249.741	1.403	1.560	85.296	42.603	-0.171	1.926	283.675	0.000	0.000	0.000	18.752	187.516	187.516
135	4.050	13.287	-4.050	-13.287	143.603	0.442	-4.350	0.308	9	7	9	7	6	124.097	0.792	0.596	0.196	6.290	1.324	27.514	36.430	23.287	30.833	239.848	0.309	142.811	-0.002	-0.002	240.406	13.770	241.406	1.403	1.558	84.464	42.465	-0.164	1.900	273.001	0.000	0.000	0.000	18.215	182.152	182.152
136	4.100	13.451	-4.100	-13.451	153.909	0.302	-11.370	0.196	9	7	9	7	7	124.097	0.802	0.601	0.201	6.454	1.318	29.489	38.880	24.097	31.771	254.974	0.197	153.107	-0.004	-0.004	255.901	14.778	256.901	1.289	0.290	86.329	42.776	-0.132	1.979	304.652	0.000	0.000	0.000	19.440	194.400	194.400
137	4.150	13.615	-4.150	-13.615	149.920	0.273	-12.830	0.182	9	7	9	7	7	124.097	0.812	0.606	0.207	6.618	1.313	28.725	37.714	23.470	30.815	246.240	0.183	149.108	-0.004	-0.004	247.243	14.401	248.243	1.288	0.287	85.456	42.630	-0.122	1.933	289.891	0.000	0.000	0.000	18.857	188.569	188.569
138	4.200	13.779	-4.200	-13.779	145.279	0.429	-11.360	0.295	9	7	9	7	6	124.097	0.822	0.611	0.212	6.782	1.307	27.835	36.395	23.495	30.720	236.584	0.297	144.457	-0.004	-0.004	237.511	13.952	238.511	1.394	1.454	84.436	42.460	-0.159	1.900	276.090	0.000	0.000	0.000	18.197	181.974	181.974
139	4.250	13.943	-4.250	-13.943	144.761	0.575	-6.200	0.397	9	6	9	7	6	124.097	0.833	0.616	0.217	6.946	1.302	27.736	36.116	23.942	31.175	233.783	0.400	143.929	-0.003	-0.003	234.449	13.887	235.449	1.465	2.357	84.215	42.423	-0.183	1.895	274.405	0.000	0.000	0.000	18.058	180.579	180.579
140	4.300	14.107	-4.300	-14.107	147.446	0.654	-2.180	0.444	9	6	9	7	6	124.097	0.843	0.621	0.222	7.110	1.297	28.251	36.636	24.561	31.851	236.187	0.446	146.604	-0.002	-0.002	236.654	14.132	237.654	1.488	2.663	84.625	42.492	-0.194	1.904	280.911	0.000	0.000	0.000	18.318	183.178	183.178
141	4.350	14.271	-4.350	-14.271	150.323	0.764	0.550	0.508	9	6	9	7	6	124.097	0.853	0.626	0.227	7.275	1.292	28.802	37.199	25.285	32.656	238.860	0.511	149.471	-0.001	-0.001	239.195	14.399	240.195	1.518	3.090	85.063	42.565	-0.207	1.918	288.400	0.000	0.000	0.000	18.600	185.996	185.996
142	4.400	14.436	-4.400	-14.436	156.648	0.881	2.960	0.562	9	6	9	7	6	124.097	0.863	0.631	0.232	7.439	1.286	30.014	38.609	26.475	34.056	246.955	0.566	155.786	-0.001	-0.001	247.177	14.998	248.177	1.532	3.307	86.129	42.742	-0.218	1.966	308.164	0.000	0.000	0.000	19.304	193.043	193.043
143	4.450	14.600	-4.450	-14.600	171.782	1.030	5.080	0.600	9	6	9	7	6	124.097	0.873	0.636	0.237	7.603	1.281	32.913	42.170	28.925	37.060	268.774	0.603	170.909	-0.000	-0.000	268.898	16.441	269.898	1.521	3.139	88.657	43.164	-0.232	0.000	0.000	0.000	0.000	0.000	21.085	210.849	210.849
144	4.500	14.764	-4.500	-14.764	178.379	1.092	6.270	0.612	9	6	9	7	6	124.097	0.884	0.641	0.242	7.767	1.276	34.177	43.616	29.987	38.268	276.931	0.615	177.496	-0.000	-0.000	277.003	17.070	278.003	1.516	3.065	89.624	43.325	-0.236	0.000	0.000	0.000	0.000	0.000	21.808	218.081	218.081
145	4.550	14.928	-4.550	-14.928	184.303	1.187	6.830	0.644	9	6	9	7	6	124.097	0.894	0.646	0.248	7.931	1.271	35.312	44.888	31.038	39.455	283.916	0.647	183.409	-0.000	-0.000	283.969	17.636	284.969	1.521	3.146	90.448	43.462	-0.243	0.000	0.000	0.000	0.000	0.000	22.444	224.439	224.439
146	4.600	15.092	-4.600	-15.092	186.436	1.210	7.420	0.649	9	6	9	7	6	124.097	0.904	0.651	0.253	8.095	1.266	35.721	45.231	31.396	39.754	284.973	0.652	185.533	-0.000	-0.000	285.005	17.838	286.005	1.521	3.143	90.666	43.498	-0.244	0.000	0.000	0.000	0.000	0.000	22.615	226.154	226.154
147	4.650	15.256	-4.650	-15.256	177.189	1.165	12.670	0.657	9	6	9	7	6	124.097	0.914	0.656	0.258	8.259	1.261	33.949	42.821	30.048	37.900	268.666	0.661	176.275	0.001	0.001	268.456	16.937	269.456	1.543	3.461	89.097	43.237	-0.240	0.000	0.000	0.000	0.000	0.000	21.411	214.107	214.107
148	4.700	15.420	-4.700	-15.420	172.151	1.129	9.710	0.656	9	6	9	7	6	124.097	0.924	0.661	0.263	8.424	1.256	32.984	41.444	29.287	36.799	258.975	0.659	171.227	0.000	0.000	258.914	16.463	259.914	1.553	3.611	88.160	43.081	-0.237	0.000	0.000	0.000	0.000	0.000	20.722	207.222	207.222
149	4.750	15.584	-4.750	-15.584	159.359	1.119	9.440	0.702	9	6	9	7	6	124.097	0.934	0.667	0.268	8.588	1.252	30.533	38.219	27.528	34.457	237.794	0.706	158.425	0.000	0.000	237.754	15.238	238.754	1.599	4.341	85.838	42.694	-0.235	1.951	310.973	0.000	0.000	0.000	19.109	191.094	191.094
150	4.800	15.748	-4.800	-15.748	155.081	1.094	9.710	0.705	9	6	9	7	6	124.097	0.945	0.672	0.273	8.752	1.247	29.713	37.052	26.891	33.533	229.614	0.710	154.136	0.000	0.000	229.569	14.828	230.569	1.610	4.529	84.949	42.546	-0.233	1.914	296.940	0.000	0.000	0.000	18.526	185.262	185.262
151	4.850	15.912	-4.850	-15.912	152.852	1.081	9.880	0.707	9	6	9	7	6	124.097	0.955	0.677	0.278	8.916	1.242	29.286	36.383	26.564	33.001	224.586	0.712	151.897	0.000	0.000	224.542	14.614	225.542	1.617	4.641	84.427	42.459	-0.231	1.899	290.448	0.000	0.000	0.000	18.192	181.916	181.916
152	4.900	16.076	-4.900	-16.076	148.542	1.077	9.910	0.725	9	6	9	7	6	124.097	0.965	0.682	0.283	9.080	1.238	28.461	35.226	25.970	32.143	216.580	0.730	147.577	0.000	0.000	216.541	14.201	217.541	1.635	4.942	83.500	42.304	-0.230	1.884	279.929	0.000	0.000	0.000	17.613	176.129	176.129
153	4.950	16.240	-4.950	-16.240	150.004	1.057	10.300	0.705	9	6	9	7	6	124.097	0.975	0.687	0.288	9.244	1.233	28.741	35.441	26.136	32.229	217.100	0.709	149.029	0.000	0.000	217.051	14.340	218.051	1.624	4.768	83.675	42.333	-0.227	1.886	282.999	0.000	0.000	0.000	17.721	177.207	177.207
154	5.000	16.404	-5.000	-16.404	147.424	1.001	10.330	0.679	9	6	9	7	6	124.097	0.985	0.692	0.294	9.408	1.229	28.247	34.704	25.655	31.521	211.766	0.684	146.439	0.000	0.000	211.725	14.092	212.725	1.621	4.708

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
187	6.650	21.817	-6.650	-21.817	101.217	0.227	13.960	0.224	9	6	9	6	6	124.097	1.318	0.855	0.463	14.825	1.105	19.393	21.431	17.211	19.020	116.876	0.227	99.900	-0.000	-0.000	116.907	9.655	117.907	1.551	3.588	69.256	39.930	-0.076	2.117	214.315	0.000	0.000	0.000	10.716	107.156	107.156
188	6.700	21.981	-6.700	-21.981	96.708	0.232	15.770	0.240	9	6	9	6	6	124.097	1.328	0.860	0.468	14.989	1.102	18.529	20.416	16.612	18.303	110.932	0.243	95.381	0.000	0.000	110.904	9.218	111.904	1.582	4.067	67.866	39.698	-0.077	2.150	208.049	0.000	0.000	0.000	10.208	102.081	102.081
189	6.750	22.145	-6.750	-22.145	90.322	0.266	16.350	0.295	9	6	9	6	6	124.097	1.338	0.865	0.473	15.153	1.099	17.306	19.012	15.853	17.416	102.888	0.299	88.985	0.000	0.000	102.844	8.604	103.844	1.646	5.000	65.823	39.358	-0.087	2.204	199.133	0.000	0.000	0.000	9.506	95.061	95.061
190	6.800	22.309	-6.800	-22.309	77.466	0.339	18.550	0.438	8	6	8	6	6	120.915	1.348	0.870	0.478	15.317	1.095	18.553	20.325	14.270	15.632	87.513	0.445	76.118	0.001	0.001	87.396	7.366	88.396	1.785	5.000	61.341	38.611	-0.106	2.341	181.406	0.000	0.000	0.000	8.130	81.299	81.299
191	6.850	22.473	-6.850	-22.473	64.742	0.373	22.670	0.576	8	6	8	6	6	120.915	1.358	0.875	0.483	15.482	1.092	15.506	16.940	12.499	13.655	72.473	0.588	63.384	0.003	0.004	72.216	6.134	73.216	1.915	10.749	56.119	37.741	-0.111	2.542	164.626	0.000	0.000	0.000	6.776	67.758	67.758
192	6.900	22.638	-6.900	-22.638	56.085	0.429	27.990	0.765	8	6	8	6	5	120.915	1.368	0.880	0.488	15.646	1.089	13.432	14.634	11.335	12.350	62.222	0.784	54.717	0.007	0.007	61.783	5.289	62.783	2.035	13.909	51.926	37.042	-0.121	2.734	153.396	0.000	0.000	0.000	5.854	58.538	58.538
193	6.950	22.802	-6.950	-22.802	49.619	0.654	43.150	1.318	7	5	8	6	5	117.733	1.378	0.884	0.493	15.810	1.087	15.845	17.218	10.795	11.730	54.569	1.356	48.242	0.017	0.018	53.603	4.625	54.603	2.217	19.568	48.340	36.444	-0.156	2.916	144.735	0.000	0.000	0.000	5.165	51.653	51.653
194	7.000	22.966	-7.000	-22.966	54.665	0.494	55.280	0.904	8	5	8	6	5	120.915	1.388	0.889	0.498	15.974	1.084	13.092	14.189	11.276	12.221	59.949	0.927	53.278	0.022	0.023	58.568	5.072	59.568	2.087	15.409	51.040	36.894	-0.130	2.779	151.998	0.000	0.000	0.000	5.676	56.756	56.756
195	7.050	23.130	-7.050	-23.130	73.670	0.398	1.660	0.540	8	6	8	6	6	120.915	1.397	0.894	0.504	16.138	1.081	17.644	19.071	13.918	15.043	80.886	0.551	72.273	-0.006	-0.006	81.392	7.053	82.392	1.856	9.353	59.515	38.307	-0.117	2.410	177.647	0.000	0.000	0.000	7.628	76.282	76.282
196	7.100	23.294	-7.100	-23.294	78.226	0.290	-7.030	0.371	8	6	8	6	6	120.915	1.407	0.899	0.509	16.302	1.078	18.735	20.196	14.251	15.362	85.515	0.378	76.819	-0.009	-0.009	86.325	7.515	87.325	1.754	5.000	61.159	38.581	-0.091	2.353	184.121	0.000	0.000	0.000	8.078	80.783	80.783
197	7.150	23.458	-7.150	-23.458	79.746	0.187	-5.420	0.234	9	6	8	6	6	124.097	1.417	0.904	0.514	16.466	1.075	15.279	16.426	14.094	15.151	86.720	0.239	78.329	-0.009	-0.009	87.476	7.656	88.476	1.666	5.000	61.632	38.659	-0.055	2.338	186.497	0.000	0.000	0.000	8.213	82.128	82.128
198	7.200	23.622	-7.200	-23.622	84.490	0.203	1.590	0.240	9	6	9	6	6	124.097	1.428	0.909	0.519	16.631	1.072	16.188	17.354	14.838	15.907	91.449	0.244	83.063	-0.006	-0.006	91.965	8.089	92.965	1.648	5.000	63.208	38.922	-0.061	2.288	193.380	0.000	0.000	0.000	8.677	86.771	86.771
199	7.250	23.786	-7.250	-23.786	84.201	0.245	14.500	0.291	9	6	9	6	6	124.097	1.438	0.914	0.524	16.795	1.069	16.133	17.247	14.965	15.998	90.614	0.296	82.763	-0.001	-0.001	90.692	8.023	91.692	1.683	5.000	63.030	38.892	-0.075	2.294	193.267	0.000	0.000	0.000	8.623	86.234	86.234
200	7.300	23.950	-7.300	-23.950	80.825	0.286	36.090	0.354	8	6	8	6	6	120.915	1.448	0.919	0.529	16.959	1.066	19.358	20.639	14.634	15.603	86.442	0.360	79.378	0.007	0.008	85.791	7.635	86.791	1.737	5.000	61.780	38.684	-0.087	2.336	188.861	0.000	0.000	0.000	8.255	82.555	82.555
201	7.350	24.114	-7.350	-24.114	86.489	0.374	38.250	0.432	8	6	8	6	6	120.915	1.458	0.923	0.534	17.123	1.063	20.714	22.027	15.746	16.745	92.117	0.440	85.032	0.008	0.008	91.402	8.171	92.402	1.752	5.000	63.647	38.995	-0.108	2.277	197.042	0.000	0.000	0.000	8.811	88.110	88.110
202	7.400	24.278	-7.400	-24.278	83.521	0.463	38.620	0.554	8	6	8	6	6	120.915	1.468	0.928	0.539	17.287	1.061	20.003	21.217	15.587	16.532	88.432	0.564	82.054	0.008	0.008	87.714	7.886	88.714	1.822	8.595	62.572	38.816	-0.125	2.312	193.159	0.000	0.000	0.000	8.487	84.866	84.866
203	7.450	24.442	-7.450	-24.442	76.065	0.507	40.770	0.667	8	6	8	6	6	120.915	1.478	0.933	0.545	17.451	1.058	18.217	19.273	14.610	15.457	79.972	0.680	74.587	0.010	0.010	79.191	7.165	80.191	1.901	10.413	59.817	38.357	-0.132	2.407	183.180	0.000	0.000	0.000	7.709	77.090	77.090
204	7.500	24.606	-7.500	-24.606	70.269	0.582	43.050	0.828	8	6	8	6	5	120.915	1.488	0.938	0.550	17.615	1.055	16.829	17.759	13.926	14.695	73.370	0.846	68.782	0.011	0.012	72.522	6.603	73.522	1.984	12.520	57.472	37.966	-0.142	2.499	175.653	0.000	0.000	0.000	7.103	71.034	71.034
205	7.550	24.770	-7.550	-24.770	60.134	0.623	48.770	1.036	8	5	8	6	5	120.915	1.497	0.943	0.555	17.779	1.053	14.402	15.159	12.459	13.113	62.230	1.062	58.638	0.016	0.017	61.203	5.615	62.203	2.098	15.739	52.935	37.210	-0.146	2.699	162.396	0.000	0.000	0.000	6.063	60.634	60.634
206	7.600	24.934	-7.600	-24.934	44.111	0.545	80.330	1.236	7	5	7	6	5	117.733	1.507	0.947	0.560	17.944	1.050	14.086	14.790	9.751	10.238	44.993	1.279	42.605	0.044	0.046	42.936	3.986	43.936	2.255	20.881	43.982	35.718	-0.129	3.165	139.666	0.000	0.000	0.000	4.437	44.369	44.369
207	7.650	25.098	-7.650	-25.098	46.175	0.370	98.440	0.801	7	5	7	6	5	117.733	1.517	0.952	0.565	18.108	1.047	14.745	15.444	9.704	10.165	46.936	0.829	44.658	0.054	0.056	44.300	4.129	45.300	2.133	16.830	45.224	35.925	-0.095	3.098	143.102	0.000	0.000	0.000	4.633	46.333	46.333
208	7.700	25.262	-7.700	-25.262	61.124	0.195	91.870	0.319	8	6	8	6	6	120.915	1.527	0.957	0.570	18.272	1.045	14.639	15.296	11.468	11.983	62.332	0.327	59.597	0.038	0.039	59.929	5.581	60.929	1.837	5.000	53.193	37.253	-0.047	2.690	164.507	0.000	0.000	0.000	6.118	61.183	61.183
209	7.750	25.426	-7.750	-25.426	72.604	0.165	29.500	0.227	8	6	8	6	6	120.915	1.537	0.961	0.575	18.436	1.042	17.389	18.123	13.038	13.589	73.958	0.232	71.068	0.005	0.005	73.598	6.867	74.598	1.713	5.000	58.055	38.063	-0.038	2.480	180.148	0.000	0.000	0.000	7.249	72.493	72.493
210	7.800	25.590	-7.800	-25.590	69.778	0.167	20.510	0.239	8	6	8	6	6	120.915	1.547	0.966	0.580	18.600	1.040	16.712	17.375	12.641	13.142	70.654	0.245	68.232	0.001	0.001	70.592	6.623	71.592	1.738	5.000	56.846	37.862	-0.038	2.530	176.633	0.000	0.000	0.000	6.950	69.498	69.498
211	7.850	25.754	-7.850	-25.754	60.434	0.187	31.120	0.309	8	6	8	6	6	120.915	1.556	0.971	0.586	18.764	1.037	14.474	15.011	11.349	11.769	60.667	0.318	58.878	0.006	0.007	60.269	5.697	61.269	1.839	5.000	52.654	37.163	-0.046	2.719	164.384	0.000	0.000	0.000	6.004	60.043	60.043
212	7.900	25.918	-7.900	-25.918	48.156	0.518	49.070	1.076	7	5	8	6	5	117.733	1.566	0.976	0.591	18.928	1.035	15.378	15.910	10.374	10.733	47.776	1.112	46.591	0.020	0.020	46.811	4.467	47.811	2.193	18.775	46.076	36.067	-0.125	3.057	147.285	0.000	0.000	0.000	4.773	47.730	47.730
213	7.950	26.082	-7.950	-26.082	38.715	0.595	76.080	1.537	7	5	7	5	5	117.733	1.576	0.980	0.596	19.093	1.032	12.363	12.761	8.978	9.267	37.908	1.602	37.140	0.046	0.048	36.092	3.481	37.092	2.364	24.984	39.754	35.013	-0.132	3.409	132.029	0.000	0.000	0.000	3.828	38.283	38.283
214	8.000	26.246	-8.000	-26.246	76.032	0.580	125.270	0.763	8	6	8	6	6	120.915	1.586	0.985	0.601	19.257	1.030	18.210	18.751	14.842	15.283	75.628	0.779	74.447	0.044	0.044	72.266	6.909	73.266	1.944	11.482	59.032	38.226	-0.135	2.447	186.135	0.000	0.000	0.000	7.501	75.006	75.006
215	8.050	26.410	-8.050	-26.410	150.609	0.909	47.830	0.604	9	6	9	6	6	124.097	1.596	0.990	0.606	19.421	1.027	28.857	29.641	26.403	27.121	150.623	0.610	149.013	0.006	0.006	149.726	14.285	150.726	1.643	5.082	78.552	41.480	-0.180	1.945	293.033	0.000	0.000	0.000	14.821	148.206	148.206
216	8.100	26.574	-8.100	-26.574	168.507	1.441	-6.810	0.855	9	6	9	6	6	124.097	1.606	0.995	0.611	19.585	1.025	32.286	33.079	30.165	30.906	167.846	0.863	166.902	-0.005	-0.005	168.675	16.163	169.675	1.704	6.189	81.698	42.004	-0.223	1.903	320.769	0.000	0.000	0.000	16.540	165.397	165.397
217	8.150	26.739	-8.150	-26.739	141.398	1.520	-16.350	1.075	8	6	9	6	5	120.915	1.616	1.000	0.616	19.749	1.022	33.865	34.611	26.452	27.035	139.880	1.087	139.783	-0.008	-0.008	141.008	13.595	142.008	1.829	8.744	76.600	41.154	-0.228	1.984	280.643	0.000	0.000	0.000	13.845	138.445	138.445
218	8.200	26.903	-8.200	-26.903	119.179	0.869	-16.120	0.729	9	6	9	6	6	124.097	1.626	1.005	0.621	19.913	1.020	22.835	23.281	21.885	22.313	117.059	0.739	117.554	-0.009	-0.010	118.179	11.466	119.179	1.777	7.632	71.629	40.326	-0.175	2.090	249.159	0.000	0.000	0.000	11.640	116.404	116.404
219	8.250	27.067	-8.250	-27.067	113.824	0.574	-12.140	0.504	9	6	9	6	6	124.097	1.636	1.010	0.627	20.077	1.017	21.809	22.179	20.357	20.702	111.157	0.512	112.189	-0.009	-0.009	112.152	10.941	113.152	1.701	6.139	70.239	40.094	-0.139	2.122	241.603	0.000	0.000	0.000	11.089	110.895	110.895
220	8.300	27.231	-8.300	-27.231	129.890	0.878	0.020	0.676	9	6	9	6	6	124.097	1.646	1.015	0.632	20.242	1.014	24.887	25.246	23.452	23.790	126.431	0.685	128.244	-0.005	-0.005	127.053	12.443	128.053	1.728	6.662	73.952	40.713	-0.175	2.041	265.260	0.000	0.000	0.000	12.623	126.231	126.231
221	8.350	27.395	-8.350	-27.395	136.935	1.369	13.640	1.000	9	6	9	6	6	124.097	1.657	1.020	0.637	20.406	1.012	26.237	26.549	25.545	25.849	132.705	1.012	135.279	-0.002	-0.002	132.911	13.078	133.911	1.821	8.572	75.395	40.953	-0.215	2.012	275.595	0.000	0.000	0.000	13.275	132.747	132.747
222	8.400	27.559	-8.400	-27.559	134.866	1.750	4.090	1.298	8	6	9	6	5	120.915	1.667	1.025	0.642	20.570	1.009	32.300	32.607	25.939	26.185	130.036	1.314	133.200	-0.004	-0.004	130.538	12.908	131.538	1.904	10.499	74.889	40.869	-0.240	2.023	272.963	0.000	0.000	0.000	13.043	130.426	130.426
223	8.450	27.723	-8.450	-27.723	122.166	1.403	-8.600	1.148	8	6	9	6	5	120.915	1.677	1.030	0.647	20.734	1.007	29.259	29.467	23.458	23.626	117.081	1.164	120.490	-0.007	-0.008	117.970	11.729	118.970	1.900	10.393	71.988	40.385	-0.218	2.086	254.964	0.000	0.000	0.000	11.787	117.869	117.869
224	8.500	27.887	-8.500	-27.887	126.158	1.065	-3.580	0.844	9	6	9	6	6	124.097	1.687	1.034	0.652	20.898	1.005	24.172	24.286	23.377	23.488	120.373	0.856	124.472	-0.006	-0.006	121.111	12.097	122.111	1.802	8.168	72.841	40.528	-0.191	2.068	261.055	0.000	0.000	0.000	12.143	121.430	121.430
225	8.550	28.051	-8.550	-28.051	127.504	0.965	-5.840	0.757	9	6	9	6	6	124.097	1.697	1.040	0.657	21.062	1.002	24.430	24.485	23.354	23.407	121.073	0.767	125.807	-0.007	-0.007	121.880	12.232	122.880	1.769	7.482	73.075	40.567	-0.182	2.064	263.302	0.000	0.000	0.000	12.243	122.426	122.426
226	8.600	28.215	-8.600	-28.215	133.517	0.799	-3.670	0.598	9	6	9	6	6	124.097	1.707	1.045	0.662	21.226	1.000	25.582	25.578	23.805	23.801	126.236	0.606	131.811	-0.006	-0.006	126.979	12.802	127.979	1.692	5.971	74.326	40.775	-0.165	2.038	272.246	0.000	0.000	0.000	12.789	127.890	127.890
227	8.650	28.379	-8.650	-28.379	141.145	1.086	-5.680	0.769	9	6	9	6	6	124.097	1.717	1.050	0.668	21.391	0.997	27.043	26.974	25.595	25.530	132.887	0.779	139.428	-0.006	-0.006	133.692	13.539	134.692	1.741	6.909	75.850	41.029	-0.191	2.007	283.370	0.000	0.000	0.000	13.487	134.869	134.869
228	8.700	28.543	-8.700	-28.543	135.769	0.969	-3.430	0.714	9	6	9	6	6	124.097	1.727	1.055	0.673	21.555	0.995	26.013	25.884	24.564	24.443	127.141	0.723	134.042	-0.006	-0.006	127.880	13.017	128.880	1.735	6.780	74.668	40.832	-0.181	2.033	276.070	0.000	0.000	0.000	12.942	129.421	129.421
229	8.750	28.707	-8.750	-28.707	136.417	0.814	-3.610	0.597	9	6	9	6	6	124.097	1.738	1.060	0.678	21.719	0.993	26.138	25.946	24.274	24.096	127.137	0.604	134.681	-0.006	-0.006	127.883	13.080	128.883	1.686	5.865	74.736	40.843	-0.165	2.032	277.300	0.000	0.000	0.000	12.973	129.729	129.729
230	8.800	28.871	-8.800	-28.871	143.200	1.091	-3.170	0.762	9	6	9	6	6	124.097	1.748	1.065	0.683	21.883	0.990	27.437	27.171	25.921	25.670	132.895	0.771	141.453	-0.005	-0.006	133.630	13.728	134.630	1.736	6.807	76.058	41.064	-0.191	2.005	287.200	0.000	0.000	0.000	13.585	135.855	135.855
231	8.850	29.035	-8.850	-29.035	146.060	0.924	-1.580	0.633	9	6	9	6	6	124.097	1.758	1.070	0.688	22.047	0.988	27.985	27.648	25.929	25.616	134.932	0.640	144.303	-0.005	-0.005	135.621	13.997	136.621	1.679	5.738	76.557	41.147	-0.175	1.995	291.530	0.000	0.000	0.000	13.824	138.240	138.240
232	8.900	29.199	-8.900	-29.199	134.989	1.150	1.460	0.852	9	6	9	6	6	124.097	1.768	1.075	0.693	22.211	0.986	25.864	25.492	24.893	24.535	123.984	0.863	133.222	-0.005	-0.005	124.586	12.928	125.586	1.789	7.878	74.230	40.759	-0.194	2.045	276.183	0.000	0.000	0.000	12.746	127.461	127.461
233	8.950	29.363	-8.950	-29.363	121.791	1.042	3.370	0.856	9	6	9	6	6	124.097	1.778	1.080	0.698	22.375	0.983	23.335	22.946	22.756	22.376	111.168	0.868	120.014	-0.005	-0.005	111.717	11.658	112.717	1.825	8.669	71.214	40.256	-0.185	2.112	257.335	0.000	0.000	0.000	11.473	114.729	114.729
234	9.000	29.527	-9.000	-29.527	114.810	1.286	-4.780	1.120	8	6	9	6	5	120.915	1.788	1.085	0.703	22.539	0.981	27.497	26.977	22.225	21.804	104.217	1.138	113.023	-0.007	-0.008	105.003	11.013	106.003	1.922	10.924	69.457	39.964	-0.204	2.153	247.329	0.000	0.000	0.000	10.791	107.907	107.907
235	9.050	29.691	-9.050	-29.691	119.257	1.120	17.210	0.939	8	6	9	6	6	120.915	1.798	1.090	0.708	22.704	0.979	28.562	27.960	22.563	22.088	107.832	0.954	117.460	-0.001	-0.001	107.989	11.373	108.989	1.860	9.446	70.483	40.135	-0.190	2.130	254.165	0.000	0.000	0.000	11.184	111.840	111.840
236	9.100	29.855	-9.100	-29.855	130.983	0.956	-7.490	0.730	9	6	9	6	6	124.097	1.808	1.095	0.714	22.868	0.977	25.096	24.512	23.906	23.349	118.053	0.740	129.176	-0.007	-0.007	118.919	12.571	119.919	1.759	7.277	73.106	40.572	-0.176	2.073	271.599	0.000	0.000	0.000	12.256	122.559	122.559
237	9.150	30.019	-9.150	-30.019	134.190	1.079	-9.650	0.804	9	6	9	6	6	124.097	1.818	1.100	0.719	23.032	0.974	25.711	25.054	24.656	24.026	120.418	0.815	132.372	-0.008	-0.008	121.345	12.884	122.345	1.778	7.665	73.733	40.676	-0.187	2.060	276.526	0.000	0.000	0.000	12.527	125.271	125.271
238	9.200	30.183	-9.200	-30.183	127.471	1.109	-6.220	0.870	9	6	9	6	6	124.097	1.829	1.105	0.724	23.196	0.972	24.423	23.745	23.758	23.098	113.773	0.883	125.643	-0.007	-0.007	114.604	12.230	115.604	1.818	8.518	72.195	40.420	-0.189	2.094	267.089	0.000	0.000	0.000	11.873	118.726	118.726
239	9.250	30.347	-9.250	-30.347	97.612	1.515	-1.240	1.552	8	5	9	6	5	120.915	1.839	1.110	0.729	23.360	0.970	23.378	22.678	20.034	19.434	86.341	1.582	95.774	-0.008	-0.008	87.033	9.355	88.033	2.074	15.033	64.482	39.134	-0.220	2.289	223.484	0.000	0.000	0.000	9.071	90.713	90.713
240	9.300	30.511	-9.300	-30.511	87.885	1.562	15.200	1.777	7	5	9	6	5	117.733	1.848	1.114	0.734	23.524	0.968	28.065	27.167	18.588	17.994	77.238	1.815	86.037	-0.003	-0.003	77.471	8.374	78.471	2.149	17.322	61.413	38.623	-0.224	2.387	209.884	0.000	0.000	0.000	8.150	81.502	81.502
241	9.350	30.675	-9.350	-30.675	82.842	1.769	8.330	2.135	7	5	9	6	5	117.733	1.858	1.119	0.739	23.688	0.966	26.454	25.557	18.074	17.461	72.407	2.184	80.985	-0.006	-0.006	72.835	7.911	73.835	2.224	19.799	59.660	38.331	-0.242	2.451	203.112	0.000	0.000	0.000	7.667	76.670	76.670
242	9.400	30.840	-9.400	-30.840	86.272	1.732	6.670	2.008	7	5	9	6	5	117.733	1.868	1.123	0.744	23.853	0.964	27.549	26.561	18.580	17.914	75.160	2.052	84.405	-0.006	-0.006	75.637	8.245	76.637	2.193	18.752	60.765	38.515	-0.237	2.412	208.136	0.000	0.000	0.000	7.968	79.682	79.682
243	9.450	31.004	-9.450	-31.004	83.979	1.627	-0.240	1.937	7	5	9	6	5	117.733	1.877	1.128	0.749	24.017	0.962	26.817	25.803	18.075	17.391	72.816	1.982	82.102	-0.009	-0.009	73.487	8.046	74.487	2.191	18.702	59.935	38.377	-0.230	2.442	205.198	0.000	0.000	0.000	7.741	77.408	77.408
244	9.500	31.168	-9.500	-31.168	80.198	1.737	-9.940	2.166	7	5	8	6	5	117.733	1.887	1.133	0.755	24.181	0.960	25.610	24.592	17.620	16.920	69.176	2.218	78.312	-0.013	-0.014	70.116	7.713	71.116	2.240	20.373	58.557	38.147	-0.240	2.496	200.233	0.000	0.000	0.000	7.378	73.775	73.775
245	9.550	31.332	-9.550	-31.332	84.742	1.349	-12.440	1.592	7	5	9	6	5	117.733	1.897	1.137	0.760	24.345	0.958	27.061	25.933	17.798	17.056	72.889	1.628	82.846	-0.014	-0.014	73.899	8.156	74.899	2.131	16.776	60.080	38.401	-0.207	2.439	206.770	0.000	0.000	0.000	7.780	77.800	77.800
246	9.600	31.496	-9.600	-31.496	100.488	0.984	-9.940	0.979	8	6	9	6	5	120.915	1.907	1.142	0.765	24.509	0.956	24.067	23.017	19.568	18.714	86.379	0.998	98.582	-0.011	-0.011	87.321	9.656	88.321	1.938	11.318	64.906	39.205	-0.174	2.282	229.445	0.000	0.000	0.000	9.207	92.067	92.067
247	9.650	31.660	-9.650	-31.660	153.043	1.111	-4.340	0.726	9	6	9	6	6	124.097	1.917	1.147	0.770	24.673	0.954	29.323	27.983	27.481	26.225	131.851	0.735	151.127	-0.006	-0.006	132.641	14.674	133.641	1.713	6.359

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
280	11.300	37.073	-11.300	-37.073	206.741	1.816	0.110	0.878	9	6	9	6	6	124.097	2.243	1.304	0.939	30.090	0.895	39.612	35.452	36.836	32.968	156.924	0.888	204.499	-0.005	-0.005	157.641	19.805	158.641	1.690	5.936	83.683	42.335	-0.219	1.934	400.103	0.000	0.000	0.000	17.726	177.259	177.259
281	11.350	37.237	-11.350	-37.237	256.919	2.028	9.470	0.789	9	6	10	7	6	124.097	2.253	1.309	0.944	30.254	0.893	49.226	43.971	44.256	39.532	194.665	0.796	254.667	-0.003	-0.003	195.161	24.585	196.161	1.590	4.203	89.856	43.364	-0.228	0.000	0.000	0.000	0.000	0.000	21.986	219.855	219.855
282	11.400	37.401	-11.400	-37.401	272.681	2.434	17.730	0.893	9	6	10	7	6	124.097	2.263	1.314	0.949	30.418	0.892	52.246	46.579	47.296	42.166	205.909	0.900	270.419	-0.001	-0.001	206.211	26.070	207.211	1.611	4.543	91.508	43.639	-0.245	0.000	0.000	0.000	0.000	0.000	23.289	232.893	232.893
283	11.450	37.565	-11.450	-37.565	272.406	2.875	26.530	1.055	9	6	10	7	6	124.097	2.273	1.319	0.954	30.582	0.890	52.193	46.442	48.128	42.826	204.903	1.064	270.133	-0.000	-0.000	204.999	26.017	205.999	1.666	5.486	91.424	43.625	-0.262	0.000	0.000	0.000	0.000	0.000	23.221	232.212	232.212
284	11.500	37.729	-11.500	-37.729	273.812	3.084	33.930	1.126	9	6	10	7	6	124.097	2.283	1.324	0.959	30.746	0.888	52.462	46.593	48.714	43.264	205.175	1.136	271.529	0.000	0.000	205.099	26.130	206.099	1.686	5.856	91.516	43.640	-0.269	0.000	0.000	0.000	0.000	0.000	23.296	232.964	232.964
285	11.550	37.893	-11.550	-37.893	275.994	3.386	34.200	1.227	9	6	10	7	5	124.097	2.294	1.329	0.965	30.911	0.886	52.880	46.875	49.554	43.926	206.029	1.237	273.701	0.000	0.000	205.951	26.338	206.951	1.712	6.354	91.689	43.669	-0.278	0.000	0.000	0.000	0.000	0.000	23.437	234.373	234.373
286	11.600	38.057	-11.600	-38.057	309.413	3.360	38.990	1.086	9	6	10	7	8	124.097	2.304	1.334	0.970	31.075	0.885	59.284	52.451	54.198	47.952	230.301	1.094	307.111	0.001	0.001	230.115	29.525	231.115	1.640	5.039	94.911	44.206	-0.276	0.000	0.000	0.000	0.000	0.000	26.225	262.254	262.254
287	11.650	38.221	-11.650	-38.221	361.335	3.439	37.580	0.952	9	6	10	7	8	124.097	2.314	1.339	0.975	31.239	0.883	69.232	61.137	61.488	54.298	268.212	0.958	359.022	0.001	0.001	268.063	34.503	269.063	1.553	3.622	0.000	44.938	-0.276	0.000	0.000	0.000	0.000	0.000	30.568	305.683	305.683
288	11.700	38.385	-11.700	-38.385	347.507	3.470	28.400	0.999	9	6	10	7	8	124.097	2.324	1.344	0.980	31.403	0.881	66.582	58.686	59.673	52.596	256.904	1.005	345.184	-0.000	-0.000	256.973	33.206	257.973	1.581	4.052	0.000	44.743	-0.277	0.000	0.000	0.000	0.000	0.000	29.343	293.431	293.431
289	11.750	38.549	-11.750	-38.549	325.847	3.352	30.020	1.029	9	6	10	7	8	124.097	2.334	1.349	0.985	31.567	0.880	62.432	54.925	56.486	49.694	239.873	1.036	323.514	-0.000	-0.000	239.908	31.126	240.908	1.609	4.514	0.000	44.426	-0.274	0.000	0.000	0.000	0.000	0.000	27.463	274.626	274.626
290	11.800	38.713	-11.800	-38.713	307.028	3.255	20.540	1.060	9	6	10	7	6	124.097	2.345	1.354	0.990	31.731	0.878	58.827	51.656	53.714	47.167	225.068	1.068	304.685	-0.001	-0.001	225.325	29.352	226.325	1.637	4.976	94.473	44.133	-0.271	0.000	0.000	0.000	0.000	0.000	25.828	258.281	258.281
291	11.850	38.877	-11.850	-38.877	280.154	3.254	34.280	1.162	9	6	10	7	6	124.097	2.355	1.359	0.995	31.895	0.876	53.678	47.047	49.970	43.797	204.445	1.171	277.800	0.000	0.000	204.389	26.736	205.389	1.693	5.993	91.794	43.687	-0.272	0.000	0.000	0.000	0.000	0.000	23.523	235.234	235.234
292	11.900	39.042	-11.900	-39.042	251.975	3.224	29.580	1.279	9	6	10	7	5	124.097	2.365	1.364	1.000	32.060	0.875	48.278	42.236	45.935	40.186	183.018	1.292	249.611	-0.000	-0.000	183.074	24.051	184.074	1.756	7.209	88.703	43.171	-0.272	0.000	0.000	0.000	0.000	0.000	21.118	211.181	211.181
293	11.950	39.206	-11.950	-39.206	249.798	2.429	36.470	0.972	9	6	10	7	6	124.097	2.375	1.369	1.006	32.224	0.873	47.861	41.794	44.211	38.606	180.744	0.982	247.424	0.001	0.001	180.646	23.822	181.646	1.671	5.578	88.401	43.121	-0.241	0.000	0.000	0.000	0.000	0.000	20.897	208.969	208.969
294	12.000	39.370	-12.000	-39.370	265.856	2.286	37.870	0.860	9	6	10	7	6	124.097	2.385	1.375	1.011	32.388	0.872	50.938	44.399	46.157	40.231	191.759	0.868	263.472	0.001	0.001	191.634	25.356	192.634	1.614	4.590	90.134	43.410	-0.235	0.000	0.000	0.000	0.000	0.000	22.199	221.993	221.993
295	12.050	39.534	-12.050	-39.534	251.674	2.524	6.970	1.003	9	6	10	7	6	124.097	2.395	1.380	1.016	32.552	0.870	48.221	41.953	44.674	38.868	180.763	1.013	249.279	-0.003	-0.003	181.342	24.089	182.342	1.679	5.735	88.510	43.139	-0.245	0.000	0.000	0.000	0.000	0.000	20.976	209.765	209.765
296	12.100	39.698	-12.100	-39.698	267.620	3.039	9.660	1.136	9	6	10	7	6	124.097	2.406	1.385	1.021	32.716	0.868	51.276	44.530	47.872	41.574	191.617	1.146	265.216	-0.003	-0.003	192.137	25.609	193.137	1.702	6.150	90.218	43.424	-0.263	0.000	0.000	0.000	0.000	0.000	22.265	222.648	222.648
297	12.150	39.862	-12.150	-39.862	304.595	1.597	21.660	0.524	10	6	10	7	6	127.279	2.416	1.390	1.026	32.880	0.867	48.634	42.156	49.722	43.099	217.509	0.528	302.180	-0.001	-0.001	217.760	29.115	218.760	1.424	1.820	93.874	44.033	-0.201	0.000	0.000	0.000	0.000	0.000	25.294	252.936	252.936
298	12.200	40.026	-12.200	-40.026	395.540	2.724	8.070	0.689	10	6	10	7	6	127.279	2.426	1.395	1.031	33.044	0.865	63.155	54.638	64.625	55.911	281.884	0.693	393.115	-0.002	-0.002	282.442	37.869	283.442	1.427	1.856	0.000	45.272	-0.249	0.000	0.000	0.000	0.000	0.000	32.783	327.830	327.830
299	12.250	40.190	-12.250	-40.190	433.595	3.901	10.390	0.900	10	6	10	7	8	127.279	2.437	1.400	1.036	33.208	0.864	69.231	59.781	72.296	62.428	307.989	0.905	431.159	-0.002	-0.002	308.497	41.507	309.497	1.491	2.705	0.000	45.702	-0.283	0.000	0.000	0.000	0.000	0.000	35.869	358.687	358.687
300	12.300	40.354	-12.300	-40.354	461.819	4.536	6.190	0.982	9	6	10	7	8	124.097	2.447	1.406	1.041	33.373	0.862	88.484	76.266	77.358	66.676	326.931	0.987	459.373	-0.002	-0.002	327.535	44.224	328.535	1.505	2.906	0.000	45.994	-0.298	0.000	0.000	0.000	0.000	0.000	38.133	381.329	381.329
301	12.350	40.518	-12.350	-40.518	440.995	4.956	7.170	1.124	9	6	10	7	8	124.097	2.457	1.411	1.047	33.537	0.860	84.495	72.696	75.323	64.805	310.984	1.130	438.538	-0.002	-0.002	311.568	42.226	312.568	1.565	3.797	0.000	45.765	-0.308	0.000	0.000	0.000	0.000	0.000	36.348	363.481	363.481
302	12.400	40.682	-12.400	-40.682	414.098	4.925	2.820	1.189	9	6	10	7	8	124.097	2.467	1.416	1.052	33.701	0.859	79.341	68.140	71.590	61.483	290.860	1.196	411.631	-0.002	-0.002	291.541	39.662	292.541	1.601	4.381	0.000	45.456	-0.308	0.000	0.000	0.000	0.000	0.000	34.070	340.701	340.701
303	12.450	40.846	-12.450	-40.846	410.504	4.705	7.060	1.146	9	6	10	7	8	124.097	2.478	1.421	1.057	33.865	0.857	78.653	67.429	70.727	60.634	287.287	1.153	408.027	-0.002	-0.002	287.876	39.305	288.876	1.591	4.213	0.000	45.406	-0.303	0.000	0.000	0.000	0.000	0.000	33.714	337.143	337.143
304	12.500	41.010	-12.500	-41.010	427.040	4.773	12.830	1.118	9	6	10	7	8	124.097	2.488	1.426	1.062	34.029	0.856	81.821	70.020	73.125	62.578	297.862	1.124	424.553	-0.002	-0.002	298.326	40.872	299.326	1.572	3.917	0.000	45.586	-0.304	0.000	0.000	0.000	0.000	0.000	35.010	350.101	350.101
305	12.550	41.174	-12.550	-41.174	431.112	5.045	13.070	1.170	9	6	10	7	8	124.097	2.498	1.431	1.067	34.193	0.854	82.601	70.563	74.170	63.360	299.648	1.177	428.615	-0.002	-0.002	300.109	41.261	301.109	1.587	4.143	0.000	45.623	-0.309	0.000	0.000	0.000	0.000	0.000	35.281	352.813	352.813
306	12.600	41.338	-12.600	-41.338	411.623	5.052	14.940	1.227	9	6	10	7	8	124.097	2.508	1.436	1.072	34.357	0.853	78.867	67.254	71.507	60.978	285.009	1.235	409.116	-0.001	-0.001	285.431	39.389	286.431	1.616	4.620	0.000	45.394	-0.310	0.000	0.000	0.000	0.000	0.000	33.627	336.270	336.270
307	12.650	41.502	-12.650	-41.502	398.226	4.835	17.000	1.214	9	6	10	7	8	124.097	2.518	1.441	1.077	34.522	0.851	76.300	64.951	69.300	58.992	274.701	1.222	395.709	-0.001	-0.001	275.080	38.099	276.080	1.621	4.707	0.000	45.227	-0.305	0.000	0.000	0.000	0.000	0.000	32.475	324.754	324.754
308	12.700	41.666	-12.700	-41.666	394.861	4.576	19.390	1.159	9	6	10	7	8	124.097	2.529	1.446	1.082	34.686	0.850	75.655	64.289	68.402	58.126	271.405	1.166	392.334	-0.001	-0.001	271.735	37.770	272.735	1.607	4.480	0.000	45.178	-0.299	0.000	0.000	0.000	0.000	0.000	32.145	321.446	321.446
309	12.750	41.830	-12.750	-41.830	352.365	4.325	18.430	1.227	9	6	10	7	8	124.097	2.539	1.451	1.088	34.850	0.848	67.513	57.270	62.089	52.669	241.157	1.236	349.827	-0.001	-0.001	241.510	33.701	242.510	1.658	5.346	0.000	44.626	-0.294	0.000	0.000	0.000	0.000	0.000	28.635	286.351	286.351
310	12.800	41.994	-12.800	-41.994	302.050	3.773	8.000	1.249	9	6	10	7	5	124.097	2.549	1.456	1.093	35.014	0.847	57.873	49.007	54.115	45.825	205.747	1.260	299.502	-0.003	-0.003	206.326	28.912	207.326	1.706	6.235	92.964	43.882	-0.281	0.000	0.000	0.000	0.000	0.000	24.504	245.035	245.035
311	12.850	42.158	-12.850	-42.158	270.667	3.040	9.150	1.123	9	6	10	7	6	124.097	2.559	1.461	1.098	35.178	0.845	51.860	43.839	48.435	40.944	183.544	1.134	268.109	-0.003	-0.003	184.099	25.903	185.099	1.703	6.170	89.770	43.349	-0.258	0.000	0.000	0.000	0.000	0.000	21.920	219.196	219.196
312	12.900	42.322	-12.900	-42.322	245.903	2.390	13.270	0.972	9	6	9	6	6	124.097	2.569	1.466	1.103	35.342	0.844	47.115	39.759	43.748	36.918	166.009	0.982	243.335	-0.003	-0.003	166.478	23.518	167.478	1.686	5.854	86.970	42.883	-0.234	2.078	511.113	0.000	0.000	0.000	19.880	198.797	198.797
313	12.950	42.486	-12.950	-42.486	225.355	1.278	10.370	0.567	9	6	9	6	6	124.097	2.579	1.471	1.108	35.506	0.842	43.178	36.374	38.387	32.338	151.461	0.574	222.776	-0.003	-0.004	151.994	21.558	152.994	1.556	3.670	84.420	42.457	-0.176	1.960	441.861	0.000	0.000	0.000	18.187	181.872	181.872
314	13.000	42.650	-13.000	-42.650	199.898	1.370	2.840	0.685	9	6	9	6	6	124.097	2.590	1.477	1.113	35.671	0.841	38.300	32.210	35.130	29.544	133.687	0.694	197.309	-0.005	-0.005	134.380	19.142	135.380	1.650	5.208	80.935	41.877	-0.182	1.965	392.945	0.000	0.000	0.000	16.105	161.050	161.050
315	13.050	42.814	-13.050	-42.814	150.375	1.752	13.580	1.165	8	6	9	6	5	120.915	2.600	1.481	1.118	35.835	0.840	36.015	30.237	28.844	24.217	99.792	1.186	147.776	-0.005	-0.005	100.261	14.365	101.261	1.897	10.324	72.727	40.509	-0.204	2.146	322.820	0.000	0.000	0.000	12.095	120.950	120.950
316	13.100	42.978	-13.100	-42.978	142.082	2.185	27.550	1.538	8	5	9	6	5	120.915	2.610	1.486	1.123	35.999	0.838	34.029	28.524	28.326	23.744	93.882	1.567	139.473	-0.002	-0.002	94.059	13.529	95.059	1.999	12.935	71.055	40.230	-0.227	2.187	310.805	0.000	0.000	0.000	11.409	114.095	114.095
317	13.150	43.143	-13.150	-43.143	134.653	2.227	38.890	1.654	8	5	9	6	5	120.915	2.620	1.491	1.129	36.163	0.837	32.249	26.989	27.261	22.814	88.588	1.687	132.034	0.001	0.001	88.531	12.783	89.531	2.039	14.032	69.469	39.966	-0.230	2.226	299.897	0.000	0.000	0.000	10.795	107.955	107.955
318	13.200	43.307	-13.200	-43.307	145.284	2.581	75.900	1.777	8	5	9	6	5	120.915	2.629	1.496	1.134	36.327	0.836	34.795	29.073	29.405	24.569	95.407	1.809	142.655	0.009	0.009	94.581	13.691	95.581	2.039	14.013	71.601	40.321	-0.245	2.175	316.143	0.000	0.000	0.000	11.629	116.291	116.291
319	13.250	43.471	-13.250	-43.471	169.898	1.872	54.180	1.102	9	6	9	6	5	124.097	2.640	1.501	1.139	36.491	0.834	32.553	27.154	31.954	26.655	111.495	1.119	167.260	0.003	0.003	111.127	16.114	112.127	1.843	9.074	76.040	41.061	-0.208	2.071	351.944	0.000	0.000	0.000	13.577	135.770	135.770
320	13.300	43.635	-13.300	-43.635	163.050	2.652	17.690	1.626	8	5	9	6	5	120.915	2.650	1.506	1.144	36.655	0.833	39.051	32.521	32.223	26.835	106.574	1.653	160.402	-0.004	-0.004	106.967	15.567	107.967	1.977	12.325	74.814	40.856	-0.247	2.100	342.615	0.000	0.000	0.000	13.008	130.084	130.084
321	13.350	43.799	-13.350	-43.799	139.761	5.268	51.420	3.769	12	4	9	6	8	120.915	2.659	1.510	1.149	36.820	0.831	66.946	55.663	31.482	26.176	90.804	3.842	137.103	0.003	0.003	90.502	13.235	91.502	2.298	22.462	70.351	40.113	-0.394	2.208	308.716	0.000	0.000	0.000	11.133	111.326	111.326
322	13.400	43.963	-13.400	-43.963	130.072	5.940	315.900	4.567	11	9	8	6	8	130.461	2.670	1.516	1.154	36.984	0.830	124.609	103.431	0.000	0.000	84.091	4.662	127.403	0.067	0.068	78.344	11.516	79.344	2.384	0.000	68.242	39.761	-0.457	2.262	294.336	0.000	0.000	0.000	10.343	103.431	103.431
323	13.450	44.127	-13.450	-44.127	136.178	5.767	674.050	4.235	11	9	7	6	8	130.461	2.681	1.521	1.159	37.148	0.829	130.458	108.088	0.000	0.000	87.791	4.320	133.498	0.146	0.149	74.717	11.030	75.717	2.346	0.000	69.505	39.972	-0.411	2.231	303.916	0.000	0.000	0.000	10.809	108.088	108.088
324	13.500	44.291	-13.500	-44.291	117.599	4.925	674.290	4.188	11	4	7	6	4	130.461	2.691	1.527	1.164	37.312	0.827	112.660	93.171	27.510	22.751	75.290	4.286	114.909	0.169	0.173	62.262	9.250	63.262	2.384	25.753	65.248	39.262	-0.378	2.346	276.052	0.000	0.000	0.000	9.317	93.171	93.171
325	13.550	44.455	-13.550	-44.455	86.034	4.210	301.830	4.893	11	4	7	6	3	130.461	2.702	1.532	1.169	37.476	0.825	82.421	68.038	21.506	17.753	54.402	5.052	83.333	0.096	0.099	49.015	7.340	50.015	2.526	31.855	56.237	37.760	-0.418	2.675	230.236	0.000	0.000	0.000	6.804	68.038	68.038
326	13.600	44.619	-13.600	-44.619	74.387	3.938	231.780	5.294	11	4	7	6	3	130.461	2.713	1.538	1.175	37.640	0.824	71.263	58.720	19.900	13.019	46.622	5.494	71.675	0.081	0.085	42.680	6.433	43.680	2.662	38.467	52.015	37.057	-0.448	2.874	213.891	0.000	0.000	0.000	5.872	58.720	46.622
327	13.650	44.783	-13.650	-44.783	80.016	3.083	37.740	3.853	5	4	9	6	4	114.551	2.723	1.543	1.180	37.804	0.823	38.327	31.531	19.484	16.029	50.116	3.989	77.294	-0.000	-0.000	50.117	7.553	51.117	2.471	29.397	54.060	37.397	-0.318	2.776	222.224	0.000	0.000	0.000	6.306	63.063	63.063
328	13.700	44.947	-13.700	-44.947	102.931	3.435	152.380	3.337	6	4	8	6	4	114.551	2.732	1.547	1.185	37.969	0.822	39.443	32.404	23.708	19.477	64.788	3.428	100.200	0.035	0.036	62.479	9.405	63.479	2.349	24.385	61.239	38.594	-0.307	2.480	255.356	0.000	0.000	0.000	8.101	81.011	81.011
329	13.750	45.111	-13.750	-45.111	110.295	4.262	205.830	3.864	5	4	8	6	4	114.551	2.741	1.551	1.190	38.133	0.820	52.831	43.343	25.728	21.108	69.352	3.963	107.555	0.047	0.049	65.976	9.951	66.976	2.377	25.501	63.180	38.917	-0.357	2.415	266.459	0.000	0.000	0.000	8.669	86.687	86.687
330	13.800	45.275	-13.800	-45.275	140.185	5.334	385.250	3.805	12	4	8	6	4	120.915	2.751	1.556	1.195	38.297	0.819	67.149	55.009	31.668	25.943	88.360	3.881	137.435	0.077	0.079	81.397	12.278	82.397	2.305	22.707	70.012	40.056	-0.381	2.224	311.961	0.000	0.000	0.000	11.002	110.018	110.018
331	13.850	45.439	-13.850	-45.439	268.084	3.317	386.630	1.237	9	6	9	6	5	124.097	2.761	1.561	1.200	38.461	0.818	51.365	42.012	48.714	39.844	170.044	1.250	265.324	0.041	0.041	163.079	24.526	164.079	1.747	7.024	88.550	43.146	-0.257	0.000	0.000	0.000	0.000	0.000	21.006	210.061	210.061
332	13.900	45.603	-13.900	-45.603	380.819	6.149	7.800	1.615	8	6	10	7	8	120.915	2.771	1.566	1.205	38.625	0.817	91.206	74.482	69.121	56.446	241.527	1.627	378.049	-0.003	-0.003	242.141	36.459	243.141	1.744	6.960	0.000	44.815	-0.329	0.000	0.000	0.000	0.000	0.000	29.793	297.927	297.927
333	13.950	45.767	-13.950	-45.767	497.426	4.470	119.570	0.899	10	6	10	7	8	127.279	2.781	1.571	1.210	38.789	0.815	79.422	64.754	82.371	67.158	315.000	0.904	494.646	0.005	0.005	313.394	47.296	314.394	1.469	2.410	0.000	46.084	-0.285	0.000	0.000	0.000	0.000	0.000	38.853	388.526	388.526
334	14.000	45.931	-14.000	-45.931	527.963	6.554	98.150	1.241	9	6	10	7	8	124.097	2.792	1.576	1.216	38.953	0.814	101.158	82.339	90.330	73.526	333.339	1.248	525.172	0.004	0.004	332.165	50.285	333.165	1.570	3.877	0.000	46.360	-0.326	0.000	0.000	0.000	0.000	0.000	41.170	411.697	411.697
335	14.050	46.095	-14.050	-46.095	511.027	5.747	20.300	1.125	9	6	10	7	8	124.097	2.802	1.581	1.221	39.117	0.813	97.913	79.571	86.649	70.417	321.550	1.131	508.226	-0.001	-0.001	321.922	48.896	322.922	1.542	3.456	0.000	46.197	-0.312	0.000	0.000	0.000	0.000	0.000	39.785	397.853	397.853
336	14.100	46.259	-14.100	-46.259	557.467	8.248	70.020	1.480	9	6	10	7	8	124.097	2.812	1.586	1.226	39.282	0.811	106.811	86.663	97.070	78.760	349.807	1.487	554.656	0.002	0.002	349.201	53.196	350.201	1.623	4.737	0.000	46.605	-0.354	0.000	0.000	0.000	0.000	0.000	43.332	433.316	433.316
337	14.150	46.423	-14.150	-46.423	597.231	4.351	264.460	0.729	10	6	10	7	8	127.279	2.822	1.591	1.231	39.446	0.810	95.358	77.244	95.272	77.175	373.656	0.732	594.410	0.012	0.012	369.240	56.424	370.240	1.350	0.941	0.000	46.926	-0.279	0.000	0.000	0.000	0.000	0.000	46.347	463.466	463.466
338	14.200	46.587	-14.200	-46.587	564.654	3.995	99.970	0.708	10	6	10	7	8	127.279	2.833	1.597	1.236	39.610	0.809	90.156	72.909	90.217	72.958	351.994	0.711	561.822	0.003	0.003	350.813	53.795	351.813	1.355	0.999	0.000	46.650	-0.271	0.000	0.000	0.000	0.000	0.000	43.746	437.455	437.455
339	14.250	46.751	-14.250	-46.751	606.749	8.625	233.730	1.422	9	6	10	7	8	124.097	2.843	1.602	1.241	39.774	0.807	116.253	93.861	104.503	84.374	377.136	1.428	603.907	0.010	0.010	373.354	57.428	374.354	1.590	4.197	0.000	46.986	-0.355	0.000	0.000	0.000	0.000	0.000	46.931	469.305	469.305
340	14.300	46.915	-14.300	-46.915	596.824	11.011	453.980	1.845	8	6	10	7	8	120.915	2.853	1.607	1.246	39.938	0.806	142.939	115.230	106.422	85.792	369.793	1.854	593.972	0.022	0.022	361.747	55.818	362.747	1.693	5.977

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
109	2.750	9.022	-2.750	-9.022	67.089	0.452	3.080	0.674	8	6	8	6	6	120.915	0.540	0.445	0.094	3.023	1.531	16.068	24.606	12.481	19.114	149.519	0.679	66.550	0.000	0.000	149.515	6.418	150.515	1.813	8.407	66.821	39.524	-0.189	2.162	145.115	0.000	0.000	0.000	9.843	98.426	98.426
110	2.800	9.186	-2.800	-9.186	71.160	0.474	3.230	0.666	8	6	8	6	6	120.915	0.550	0.450	0.099	3.188	1.523	17.043	25.960	13.136	20.008	156.951	0.671	70.611	0.000	0.000	156.948	6.807	157.948	1.791	7.939	68.356	39.780	-0.193	2.124	151.237	0.000	0.000	0.000	10.384	103.840	103.840
111	2.850	9.350	-2.850	-9.350	74.792	0.493	3.530	0.659	8	6	8	6	6	120.915	0.559	0.455	0.105	3.352	1.515	17.913	27.141	13.716	20.782	163.261	0.664	74.233	0.000	0.000	163.249	7.155	164.249	1.773	7.555	69.630	39.993	-0.195	2.095	156.755	0.000	0.000	0.000	10.856	108.563	108.563
112	2.900	9.514	-2.900	-9.514	79.133	0.550	3.660	0.695	8	6	9	6	6	120.915	0.569	0.460	0.110	3.516	1.507	18.952	28.566	14.491	21.841	170.983	0.700	78.564	0.000	0.000	170.973	7.570	171.973	1.769	7.468	71.097	40.237	-0.204	2.063	163.308	0.000	0.000	0.000	11.426	114.263	114.263
113	2.950	9.678	-2.950	-9.678	78.343	0.450	3.640	0.574	8	6	8	6	6	120.915	0.579	0.464	0.115	3.680	1.499	18.763	28.134	14.131	21.188	167.493	0.579	77.764	-0.000	-0.000	167.496	7.494	168.496	1.726	6.607	70.661	40.164	-0.186	2.072	162.415	0.000	0.000	0.000	11.254	112.536	112.536
114	3.000	9.842	-3.000	-9.842	72.462	0.453	3.570	0.625	8	6	8	6	6	120.915	0.589	0.469	0.120	3.844	1.492	17.355	25.889	13.305	19.848	153.223	0.630	71.873	-0.000	-0.000	153.241	6.931	154.241	1.777	7.627	68.277	39.767	-0.185	2.126	154.140	0.000	0.000	0.000	10.356	103.555	103.555
115	3.050	10.006	-3.050	-10.006	65.529	0.460	6.320	0.702	8	6	8	6	6	120.915	0.599	0.474	0.125	4.008	1.484	15.694	23.293	12.324	18.291	137.021	0.708	64.931	0.001	0.001	136.869	6.259	137.869	1.843	9.071	65.248	39.262	-0.185	2.204	144.473	0.000	0.000	0.000	9.317	93.173	93.173
116	3.100	10.170	-3.100	-10.170	66.388	0.461	2.850	0.694	8	6	8	6	6	120.915	0.609	0.479	0.130	4.172	1.477	15.900	23.480	12.460	18.400	137.421	0.701	65.779	-0.001	-0.001	137.507	6.351	138.507	1.838	8.946	65.477	39.300	-0.185	2.198	145.949	0.000	0.000	0.000	9.392	93.919	93.919
117	3.150	10.335	-3.150	-10.335	65.062	0.472	3.470	0.725	8	6	8	6	6	120.915	0.619	0.484	0.135	4.337	1.469	15.582	22.896	12.301	18.074	133.294	0.732	64.443	-0.000	-0.000	133.350	6.223	134.350	1.858	9.400	64.756	39.180	-0.186	2.218	144.338	0.000	0.000	0.000	9.159	91.585	91.585
118	3.200	10.499	-3.200	-10.499	62.034	0.469	3.770	0.756	8	6	8	6	6	120.915	0.629	0.488	0.140	4.501	1.462	14.857	21.723	11.854	17.333	125.762	0.764	61.405	-0.000	-0.000	125.809	5.932	126.809	1.887	10.080	63.248	38.929	-0.184	2.262	140.377	0.000	0.000	0.000	8.689	86.893	86.893
119	3.250	10.663	-3.250	-10.663	61.426	0.463	4.180	0.754	8	6	8	6	6	120.915	0.639	0.493	0.146	4.665	1.455	14.712	21.406	11.758	17.107	123.287	0.762	60.788	-0.000	-0.000	123.317	5.872	124.317	1.891	10.187	62.822	38.858	-0.182	2.275	139.806	0.000	0.000	0.000	8.562	85.622	85.622
120	3.300	10.827	-3.300	-10.827	63.469	0.459	4.680	0.723	8	6	8	6	6	120.915	0.649	0.498	0.151	4.829	1.448	15.201	22.011	12.058	17.460	126.183	0.731	62.821	-0.000	-0.000	126.192	6.066	127.192	1.871	9.707	63.625	38.992	-0.180	2.251	142.900	0.000	0.000	0.000	8.804	88.043	88.043
121	3.350	10.991	-3.350	-10.991	66.491	0.466	4.970	0.701	8	6	8	6	6	120.915	0.659	0.503	0.156	4.993	1.441	15.925	22.948	12.528	18.053	130.971	0.708	65.833	-0.000	-0.000	130.972	6.355	131.972	1.848	9.185	64.821	39.191	-0.181	2.216	147.387	0.000	0.000	0.000	9.179	91.794	91.794
122	3.400	11.155	-3.400	-11.155	69.302	0.490	5.170	0.707	8	6	8	6	6	120.915	0.669	0.508	0.161	5.157	1.434	16.598	23.805	13.006	18.654	135.253	0.714	68.634	0.000	0.000	135.252	6.624	136.252	1.838	8.942	65.872	39.366	-0.185	2.187	151.618	0.000	0.000	0.000	9.522	95.221	95.221
123	3.450	11.319	-3.450	-11.319	70.973	0.490	5.350	0.690	8	6	8	6	6	120.915	0.679	0.512	0.166	5.321	1.428	16.998	24.265	13.259	18.927	137.230	0.697	70.295	0.000	0.000	137.228	6.783	138.228	1.825	8.658	66.420	39.457	-0.184	2.172	154.248	0.000	0.000	0.000	9.706	97.060	97.060
124	3.500	11.483	-3.500	-11.483	74.496	0.474	5.750	0.636	8	6	8	6	6	120.915	0.688	0.517	0.171	5.486	1.421	17.842	25.351	13.738	19.520	142.750	0.642	73.808	0.000	0.000	142.734	7.120	143.734	1.789	7.881	67.675	39.667	-0.180	2.141	159.548	0.000	0.000	0.000	10.140	101.403	101.403
125	3.550	11.647	-3.550	-11.647	79.498	0.495	6.040	0.623	8	6	9	6	6	120.915	0.698	0.522	0.176	5.650	1.414	19.040	26.928	14.521	20.538	151.004	0.628	78.800	0.000	0.000	150.981	7.598	151.981	1.762	7.323	69.405	39.955	-0.183	2.100	167.023	0.000	0.000	0.000	10.771	107.713	107.713
126	3.600	11.811	-3.600	-11.811	83.499	0.530	6.230	0.635	8	6	9	6	6	120.915	0.708	0.527	0.181	5.814	1.408	19.998	28.155	15.193	21.390	157.208	0.640	82.791	0.000	0.000	157.183	7.981	158.183	1.751	7.102	70.682	40.168	-0.189	2.072	173.066	0.000	0.000	0.000	11.262	112.618	112.618
127	3.650	11.975	-3.650	-11.975	86.579	0.588	6.240	0.679	8	6	9	6	6	120.915	0.718	0.532	0.187	5.978	1.402	20.736	29.061	15.789	22.128	161.566	0.685	85.861	0.000	0.000	161.550	8.276	162.550	1.757	7.229	71.590	40.319	-0.197	2.052	177.767	0.000	0.000	0.000	11.624	116.244	116.244
128	3.700	12.139	-3.700	-12.139	88.660	0.619	6.450	0.698	8	6	9	6	6	120.915	0.728	0.536	0.192	6.142	1.395	21.234	29.626	16.171	22.563	163.984	0.704	87.932	0.000	0.000	163.966	8.474	164.966	1.758	7.240	72.142	40.411	-0.201	2.041	181.014	0.000	0.000	0.000	11.851	118.505	118.505
129	3.750	12.303	-3.750	-12.303	88.601	0.637	6.560	0.719	8	6	9	6	6	120.915	0.738	0.541	0.197	6.306	1.389	21.220	29.475	16.215	22.523	162.402	0.725	87.863	0.000	0.000	162.387	8.468	163.387	1.767	7.435	71.995	40.387	-0.203	2.044	181.165	0.000	0.000	0.000	11.790	117.900	117.900
130	3.800	12.467	-3.800	-12.467	91.422	0.662	6.700	0.724	8	6	9	6	6	120.915	0.748	0.546	0.202	6.470	1.383	21.896	30.279	16.688	23.078	166.125	0.730	90.674	0.000	0.000	166.112	8.738	167.112	1.760	7.285	72.767	40.515	-0.206	2.028	185.471	0.000	0.000	0.000	12.112	121.118	121.118
131	3.850	12.631	-3.850	-12.631	92.874	0.672	7.030	0.724	8	6	9	6	6	120.915	0.758	0.551	0.207	6.634	1.377	22.243	30.626	16.929	23.309	167.297	0.730	92.116	0.000	0.000	167.274	8.876	168.274	1.756	7.202	73.093	40.570	-0.206	2.021	187.796	0.000	0.000	0.000	12.250	122.505	122.505
132	3.900	12.795	-3.900	-12.795	89.013	0.682	6.810	0.766	8	6	9	6	6	120.915	0.768	0.556	0.212	6.799	1.371	21.318	29.226	16.406	22.492	158.882	0.773	88.245	0.000	0.000	158.881	8.507	159.881	1.787	7.850	71.752	40.346	-0.207	2.049	182.460	0.000	0.000	0.000	11.690	116.903	116.903
133	3.950	12.959	-3.950	-12.959	88.274	0.519	7.030	0.588	8	6	9	6	6	120.915	0.778	0.560	0.217	6.963	1.365	21.142	28.859	15.906	21.712	156.186	0.593	87.496	0.000	0.000	156.182	8.436	157.182	1.723	6.551	71.390	40.286	-0.181	2.057	181.622	0.000	0.000	0.000	11.544	115.436	115.436
134	4.000	13.123	-4.000	-13.123	90.706	0.511	7.380	0.563	8	6	9	6	6	120.915	0.788	0.565	0.222	7.127	1.359	21.724	29.528	16.238	22.071	159.147	0.568	89.919	0.000	0.000	159.133	8.668	160.133	1.704	6.191	72.047	40.395	-0.179	2.043	185.372	0.000	0.000	0.000	11.811	118.112	118.112
135	4.050	13.287	-4.050	-13.287	87.897	0.556	20.370	0.633	8	6	9	6	6	120.915	0.798	0.570	0.228	7.291	1.353	21.051	28.493	15.966	21.610	152.860	0.638	87.100	0.005	0.005	152.143	8.360	153.143	1.746	7.004	71.024	40.225	-0.186	2.064	181.533	0.000	0.000	0.000	11.397	113.971	113.971
136	4.100	13.451	-4.100	-13.451	99.363	0.611	10.040	0.615	9	6	9	6	6	124.097	0.808	0.575	0.233	7.455	1.348	19.038	25.657	17.745	23.914	171.482	0.620	98.555	0.001	0.001	171.341	9.489	172.341	1.697	6.059	74.415	40.790	-0.194	1.995	198.271	0.000	0.000	0.000	12.828	128.285	128.285
137	4.150	13.615	-4.150	-13.615	108.593	0.709	10.020	0.653	9	6	9	7	6	124.097	0.818	0.580	0.238	7.619	1.342	20.806	27.918	19.303	25.900	185.888	0.658	107.775	0.001	0.001	185.758	10.373	186.758	1.683	5.809	76.835	41.193	-0.206	1.948	211.600	0.000	0.000	0.000	13.959	139.588	139.588
138	4.200	13.779	-4.200	-13.779	120.304	0.849	10.310	0.706	9	6	9	7	6	124.097	0.828	0.585	0.243	7.783	1.336	23.050	30.795	21.297	28.452	204.288	0.711	119.477	0.001	0.001	204.153	11.494	205.153	1.671	5.589	79.647	41.662	-0.222	1.900	228.731	0.000	0.000	0.000	15.397	153.973	153.973
139	4.250	13.943	-4.250	-13.943	127.396	0.943	10.620	0.740	9	6	9	7	6	124.097	0.838	0.590	0.248	7.948	1.330	24.409	32.470	22.520	29.957	214.542	0.745	126.558	0.001	0.001	214.400	12.173	215.400	1.667	5.514	81.165	41.915	-0.231	1.883	240.022	0.000	0.000	0.000	16.235	162.349	162.349
140	4.300	14.107	-4.300	-14.107	128.986	1.012	10.640	0.785	9	6	9	7	6	124.097	0.848	0.595	0.253	8.112	1.325	24.714	32.735	22.911	30.347	215.374	0.790	128.138	0.001	0.001	215.241	12.325	216.241	1.681	5.769	81.398	41.954	-0.237	1.882	242.795	0.000	0.000	0.000	16.368	163.675	163.675
141	4.350	14.271	-4.350	-14.271	135.810	1.035	11.180	0.762	9	6	9	7	6	124.097	0.859	0.600	0.258	8.276	1.319	26.021	34.321	23.928	31.560	224.914	0.767	134.952	0.001	0.001	224.762	12.977	225.762	1.657	5.340	82.755	42.180	-0.238	1.879	255.237	0.000	0.000	0.000	17.161	171.606	171.606
142	4.400	14.436	-4.400	-14.436	138.912	1.052	11.610	0.757	9	6	9	7	6	124.097	0.869	0.605	0.263	8.440	1.313	26.616	34.958	24.410	32.061	228.145	0.762	138.044	0.001	0.001	227.981	13.273	228.981	1.650	5.202	83.282	42.268	-0.239	1.882	261.488	0.000	0.000	0.000	17.479	174.791	174.791
143	4.450	14.600	-4.450	-14.600	139.863	1.074	11.630	0.768	9	6	9	7	6	124.097	0.879	0.610	0.269	8.604	1.308	26.798	35.051	24.603	32.181	227.794	0.773	138.984	0.001	0.001	227.639	13.364	228.639	1.653	5.258	83.358	42.280	-0.240	1.882	263.371	0.000	0.000	0.000	17.526	175.256	175.256
144	4.500	14.764	-4.500	-14.764	141.896	1.042	12.110	0.734	9	6	9	7	6	124.097	0.889	0.615	0.274	8.768	1.303	27.187	35.414	24.824	32.335	229.210	0.739	141.007	0.001	0.001	229.040	13.557	230.040	1.636	4.974	83.653	42.330	-0.236	1.886	267.661	0.000	0.000	0.000	17.707	177.071	177.071
145	4.550	14.928	-4.550	-14.928	139.666	1.090	12.230	0.780	9	6	9	7	6	124.097	0.899	0.621	0.279	8.932	1.297	26.760	34.715	24.634	31.958	223.730	0.785	138.767	0.001	0.001	223.564	13.343	224.564	1.661	5.398	83.082	42.234	-0.240	1.880	262.701	0.000	0.000	0.000	17.358	173.577	173.577
146	4.600	15.092	-4.600	-15.092	147.061	1.137	12.910	0.773	9	6	9	7	6	124.097	0.909	0.626	0.284	9.097	1.292	28.177	36.405	25.780	33.309	233.729	0.778	146.152	0.001	0.001	233.539	14.050	234.539	1.643	5.080	84.444	42.461	-0.243	1.900	279.505	0.000	0.000	0.000	18.203	182.026	182.026
147	4.650	15.256	-4.650	-15.256	146.581	1.191	12.980	0.813	9	6	9	7	6	124.097	0.920	0.631	0.289	9.261	1.287	28.085	36.141	25.845	33.258	231.077	0.818	145.662	0.001	0.001	230.893	14.004	231.893	1.660	5.379	84.235	42.427	-0.246	1.895	277.913	0.000	0.000	0.000	18.070	180.703	180.703
148	4.700	15.420	-4.700	-15.420	149.620	1.160	12.880	0.775	9	6	9	7	6	124.097	0.930	0.636	0.294	9.425	1.282	28.667	36.743	26.210	33.593	234.005	0.780	148.691	0.001	0.001	233.835	14.295	234.835	1.640	5.043	84.709	42.506	-0.243	1.907	285.397	0.000	0.000	0.000	18.371	183.715	183.715
149	4.750	15.584	-4.750	-15.584	160.780	1.170	14.400	0.728	9	6	9	7	6	124.097	0.940	0.641	0.299	9.589	1.277	30.805	39.327	27.785	35.471	249.565	0.732	159.840	0.001	0.001	249.331	15.360	250.331	1.600	4.361	86.657	42.830	-0.243	2.001	321.834	0.000	0.000	0.000	19.664	196.636	196.636
150	4.800	15.748	-4.800	-15.748	167.271	1.200	14.570	0.717	9	6	9	7	6	124.097	0.950	0.646	0.304	9.753	1.272	32.049	40.754	28.757	36.568	257.650	0.721	166.321	0.001	0.001	257.416	15.981	258.416	1.584	4.108	87.679	43.001	-0.245	0.000	0.000	0.000	0.000	0.000	0.000	20.377	203.772	203.772
151	4.850	15.912	-4.850	-15.912	160.722	1.204	13.130	0.749	9	6	9	7	6	124.097	0.960	0.651	0.309	9.917	1.267	30.794	39.006	27.879	35.314	245.565	0.754	159.762	0.001	0.001	245.411	15.358	246.411	1.611	4.546	86.422	42.791	-0.244	1.985	319.103	0.000	0.000	0.000	19.503	195.031	195.031
152	4.900	16.076	-4.900	-16.076	148.110	1.175	12.750	0.793	9	6	9	7	6	124.097	0.971	0.656	0.315	10.081	1.262	28.378	35.806	26.079	32.905	224.419	0.799	147.139	0.001	0.001	224.291	14.151	225.291	1.656	5.307	83.969	42.382	-0.241	1.890	280.073	0.000	0.000	0.000	17.903	179.032	179.032
153	4.950	16.240	-4.950	-16.240	133.103	1.010	11.720	0.759	9	6	9	7	6	124.097	0.981	0.661	0.320	10.246	1.257	25.503	32.055	23.622	29.691	199.973	0.764	132.123	0.000	0.000	199.903	12.716	200.903	1.679	5.723	80.797	41.854	-0.227	1.887	251.214	0.000	0.000	0.000	16.028	160.276	160.276
154	5.000	16.404	-5.000	-16.404	129.735	0.955	11.970	0.736	9	6	9	7	6	124.097	0.991	0.666	0.325	10.410	1.252	24.857	31.125	23.033	28.841	193.379	0.742	128.744	0.000	0.000	193.305	12.393	194.305	1.680	5.744	79.953	41.713	-0.221	1.896	246.122	0.000	0.000	0.000	15.563	155.625	155.625
155	5.050	16.568	-5.050	-16.568	123.426	0.863	10.540	0.699	9	6	9	7	6	124.097	1.001	0.671	0.330	10.574	1.247	23.648	29.500	21.940	27.369	182.501	0.705	122.425	-0.000	-0.000	182.502	11.793	183.502	1.683	5.811	78.415	41.457	-0.211	1.920	237.027	0.000	0.000	0.000	14.750	147.498	147.498
156	5.100	16.732	-5.100	-16.732	129.421	0.854	12.920	0.660	9	6	9	7	6	124.097	1.011	0.676	0.335	10.738	1.243	24.797	30.816	22.767	28.293	189.990	0.665	128.410	0.001	0.001	189.889	12.360	190.889	1.653	5.259	79.667	41.665	-0.209	1.900	246.027	0.000	0.000	0.000	15.408	154.082	154.082
157	5.150	16.896	-5.150	-16.896	127.199	0.882	12.730	0.693	9	6	9	7	6	124.097	1.021	0.681	0.340	10.902	1.238	24.371	30.175	22.535	27.901	185.302	0.699	126.178	0.000	0.000	185.218	12.148	186.218	1.674	5.630	79.064	41.565	-0.212	1.909	242.938	0.000	0.000	0.000	15.087	150.874	150.874
158	5.200	17.060	-5.200	-17.060	117.569	0.881	12.610	0.749	9	6	9	6	6	124.097	1.032	0.686	0.345	11.066	1.234	22.526	27.787	21.185	26.133	169.882	0.756	116.538	0.000	0.000	169.811	11.225	170.811	1.723	6.552	76.701	41.171	-0.211	1.950	229.386	0.000	0.000	0.000	13.894	138.936	138.936
159	5.250	17.224	-5.250	-17.224	119.872	0.907	13.130	0.757	9	6	9	6	6	124.097	1.042	0.691	0.350	11.230	1.229	22.967	28.228	21.581	26.523	171.957	0.763	118.831	0.000	0.001	171.871	11.444	172.871	1.720	6.502	77.152	41.246	-0.213	1.942	232.876	0.000	0.000	0.000	14.114	141.139	141.139
160	5.300	17.388	-5.300	-17.388	126.598	0.905	14.080	0.715	9	6	9	7	6	124.097	1.052	0.696	0.356	11.394	1.225	24.256	29.703	22.534	27.594	180.355	0.721	125.546	0.001	0.001	180.234	12.086	181.234	1.687	5.882	78.612	41.489	-0.212	1.916	242.704	0.000	0.000	0.000	14.852	148.515	148.515
161	5.350	17.552	-5.350	-17.552	134.095	0.948	15.190	0.707	9	6	9	7	6	124.097	1.062	0.701	0.361	11.559	1.220	25.693	31.348	23.696	28.913	189.732	0.713	133.033	0.001	0.001	189.570	12.801	190.570	1.666	5.497	80.158	41.747	-0.215	1.894	254.043	0.000	0.000	0.000	15.674	156.742	156.742
162	5.400	17.716	-5.400	-17.716	151.493	1.053	16.510	0.695	9	6	9	7	6	124.097	1.072	0.707	0.366	11.723	1.216	29.026	35.289	26.375	32.065	212.994	0.700	150.421	0.001	0.001	212.782	14.464	213.782	1.622	4.729	83.551	42.313	-0.224	1.884	285.577	0.000	0.000	0.000	17.644	176.443	176.443
163	5.450	17.880	-5.450	-17.880	158.221	1.111	16.150	0.702	9	6	9	7	6	124.097	1.083	0.712	0.371	11.887	1.211	30.315	36.725	27.452	33.256	220.924	0.707	157.139	0.001	0.001	220.737	15.109	221.737	1.612	4.559	84.695	42.503	-0.229	1.906	301.739	0.000	0.000	0.000	18.362	183.623	183.623
164	5.500	18.044	-5.500	-18.044	145.298	1.129	14.140	0.777	9	6	9	7	6	124.097	1.093	0.717	0.376	12.051	1.207	27.839	33.606	25.711	31.037	201.311	0.783	144.206	0.000	0.000	201.219	13.877	202.219	1.670	5.568	82.151	42.079	-0.230	1.878	273.018	0.000	0.000	0.000	16.803	168.029	168.029
165	5.550	18.208	-5.550	-18.208	141.669	1.081	14.220	0.763	9	6	9	7	6	124.097	1.103	0.722	0.381	12.215	1.203	27.144	33.653	25.105	30.199	194.854	0.769	140.566	0.000	0.000	194.767	13.529	195.767	1.674	5.644	81.325	41.942	-0.225	1.882	266.740	0.000	0.000	0.000	16.326	163.257	163.257
166	5.600	18.372	-5.600	-18.372	145.773	1.074	14.820	0.737	9	6	9	7	6	124.097	1.113	0.727	0.386	12.379	1.199	27.930	33.480	25.672	30.773	199.132	0.742	144.660	0.001	0.001	199.027	13.921	200.027	1.656	5.317	82.043	42.061	-0.224	1.878	273.944	0.000	0.000	0.000	16.740	167.400	167.400
167	5.650	18.537	-5.650	-18.537	161.103	1.094	16.470	0.679	9	6	9	7	6	124.097	1.123	0.732	0.391	12.543	1.195	30.867	36.873	27.851	33.269	218.699	0.684	159.980	0.001	0.001	218.531	15.384	219.531	1.601	4.379	84.810	42.522	-0.225	1.910	307.772	0.000	0.000	0.000	18.436	184.364	184.364
168	5.700	18.701	-5.700	-18.701	166.644	1.180	16.640	0.708	9	6	9	7	6	124.097	1.133	0.737	0.397	12.708	1.190	31.929	38.010	28.829	34.320	224.706	0.713	165.511	0.001	0.001	224.539	15.915	225.539	1.603	4.414	85.681	42.668	-0.231	1.943	323.903	0.000	0.000	0.000	19.005	190.049	190.049
169	5.750	18.865	-5.750	-18.865	165.732	1.225	16.400	0.739	9	6	9	7	6	124.097	1.144	0.742	0.402	12.872	1.186	31.754	37.673	28.820	34.192	221.931	0.744	164.589	0.001	0.001	221.782	15.828	222.782	1.619	4.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
217	8.150	26.739	-8.150	-26.739	37.833	2.071	10.110	5.474	3	3	8	6	3	111.369	1.624	0.977	0.648	20.750	1.034	36.244	37.472	10.562	10.805	37.079	5.720	36.209	-0.009	-0.009	37.418	3.594	38.418	2.743	42.773	0.000	0.000	0.000	0.000	0.000	2.415	0.000	10.000	3.747	37.472	37.079
218	8.200	26.903	-8.200	-26.903	31.958	1.798	4.430	5.626	3	3	7	5	3	111.369	1.634	0.981	0.653	20.915	1.032	30.615	31.588	9.252	9.345	30.926	5.929	30.325	-0.016	-0.017	31.450	3.048	32.450	2.809	46.522	0.000	0.000	0.000	0.000	0.000	2.022	0.000	10.000	3.159	31.588	30.926
219	8.250	27.067	-8.250	-27.067	27.617	1.765	151.630	6.391	3	3	5	5	3	111.369	1.643	0.985	0.658	21.079	1.030	26.457	27.241	8.421	8.397	26.381	6.795	25.974	0.148	0.157	22.242	2.192	23.242	2.900	51.983	0.000	0.000	0.000	0.000	0.000	1.732	0.510	10.000	2.724	27.241	26.381
220	8.300	27.231	-8.300	-27.231	43.483	1.655	195.960	3.806	5	4	6	5	3	114.551	1.652	0.989	0.663	21.243	1.027	20.829	21.401	11.189	11.496	42.309	3.956	41.832	0.125	0.130	36.793	3.580	37.793	2.585	34.634	42.952	35.546	-0.269	3.232	140.599	0.000	0.000	0.000	4.280	42.802	42.802
221	8.350	27.395	-8.350	-27.395	116.993	1.698	5.360	1.451	8	6	9	6	5	120.915	1.662	0.994	0.668	21.407	1.025	28.020	28.725	23.136	23.718	116.115	1.472	115.332	-0.004	-0.004	116.619	11.192	117.619	1.978	12.369	71.256	40.263	-0.242	2.096	245.329	0.000	0.000	0.000	11.490	114.898	114.898
222	8.400	27.559	-8.400	-27.559	164.130	1.982	-6.370	1.208	8	6	9	6	5	120.915	1.672	0.998	0.673	21.571	1.023	39.309	40.201	30.582	31.276	162.776	1.220	162.459	-0.005	-0.005	163.650	15.743	164.650	1.818	8.500	80.891	41.869	-0.255	1.910	313.697	0.000	0.000	0.000	16.080	160.803	160.803
223	8.450	27.723	-8.450	-27.723	200.920	1.665	-6.350	0.829	9	6	9	7	6	124.097	1.682	1.003	0.678	21.735	1.020	38.496	39.273	35.191	35.901	198.647	0.836	199.239	-0.004	-0.004	199.521	19.267	200.521	1.640	5.035	86.617	42.824	-0.235	2.015	405.040	0.000	0.000	0.000	19.636	196.363	196.363
224	8.500	27.887	-8.500	-27.887	190.843	1.357	-10.810	0.711	9	6	9	7	6	124.097	1.692	1.008	0.683	21.899	1.018	36.565	37.209	33.112	33.695	187.643	0.717	189.151	-0.005	-0.005	188.656	18.315	189.656	1.612	4.558	85.070	42.566	-0.216	1.937	369.806	0.000	0.000	0.000	18.605	186.046	186.046
225	8.550	28.051	-8.550	-28.051	164.252	1.347	-10.880	0.820	9	6	9	6	6	124.097	1.702	1.014	0.689	22.063	1.015	31.471	31.945	29.395	29.837	160.450	0.829	162.551	-0.006	-0.006	161.464	15.768	162.464	1.703	6.174	80.698	41.837	-0.215	1.914	314.586	0.000	0.000	0.000	15.972	159.723	159.723
226	8.600	28.215	-8.600	-28.215	137.232	1.368	-7.730	0.997	9	6	9	6	6	124.097	1.712	1.019	0.694	22.228	1.013	26.294	26.623	25.585	25.906	133.104	1.009	135.520	-0.007	-0.007	134.022	13.170	135.022	1.819	8.536	75.475	40.967	-0.216	2.010	275.937	0.000	0.000	0.000	13.312	133.116	133.116
227	8.650	28.379	-8.650	-28.379	121.413	1.807	-5.920	1.488	8	6	9	6	5	120.915	1.722	1.024	0.699	22.392	1.010	29.078	29.372	24.017	24.260	116.991	1.510	119.691	-0.007	-0.007	117.855	11.649	118.855	1.979	12.391	71.895	40.370	-0.246	2.087	253.514	0.000	0.000	0.000	11.749	117.488	117.488
228	8.700	28.543	-8.700	-28.543	90.718	1.785	-8.330	1.968	7	5	9	6	5	117.733	1.732	1.028	0.704	22.556	1.008	28.969	29.195	19.249	19.399	86.584	2.006	88.987	-0.011	-0.011	87.522	8.716	88.522	2.157	17.571	63.476	38.967	-0.250	2.303	209.008	0.000	0.000	0.000	8.759	87.586	87.586
229	8.750	28.707	-8.750	-28.707	80.302	1.837	-6.110	2.288	7	5	8	6	5	117.733	1.742	1.033	0.709	22.720	1.006	25.643	25.786	17.654	17.753	76.104	2.338	78.561	-0.011	-0.011	76.975	7.711	77.975	2.242	20.426	59.917	38.374	-0.258	2.424	194.716	0.000	0.000	0.000	7.736	77.359	77.359
230	8.800	28.871	-8.800	-28.871	147.128	1.747	-3.580	2.265	7	5	8	6	5	117.733	1.751	1.037	0.714	22.884	1.003	24.629	24.713	17.031	17.089	72.700	2.318	75.377	-0.011	-0.011	73.497	7.400	74.497	2.252	20.790	58.698	38.170	-0.252	2.471	190.634	0.000	0.000	0.000	7.414	74.138	74.138
231	8.850	29.035	-8.850	-29.035	87.291	1.691	-6.280	1.937	7	5	9	6	5	117.733	1.761	1.042	0.719	23.048	1.001	27.875	27.908	18.594	18.616	82.134	1.977	85.530	-0.010	-0.011	83.013	8.381	84.013	2.166	17.877	62.184	38.751	-0.243	2.347	204.940	0.000	0.000	0.000	8.372	83.724	83.724
232	8.900	29.199	-8.900	-29.199	95.870	1.192	-6.440	1.243	8	6	9	6	5	120.915	1.771	1.046	0.724	23.212	0.999	22.961	22.937	19.157	19.137	89.960	1.267	94.100	-0.010	-0.010	90.844	9.204	91.844	2.005	13.096	64.807	39.189	-0.201	2.267	217.415	0.000	0.000	0.000	9.175	91.748	91.748
233	8.950	29.363	-8.950	-29.363	110.030	1.119	-4.730	1.017	8	6	9	6	5	120.915	1.781	1.051	0.729	23.377	0.997	26.352	26.265	21.153	21.082	103.016	1.034	108.250	-0.008	-0.008	103.850	10.555	104.850	1.903	10.469	68.690	39.836	-0.194	2.166	238.374	0.000	0.000	0.000	10.506	105.059	105.059
234	9.000	29.527	-9.000	-29.527	120.641	1.632	-1.500	1.353	8	6	9	6	5	120.915	1.791	1.056	0.735	23.541	0.994	28.893	28.732	23.666	23.533	112.590	1.373	118.851	-0.006	-0.007	113.330	11.562	114.330	1.957	11.816	71.263	40.265	-0.231	2.107	254.267	0.000	0.000	0.000	11.493	114.928	114.928
235	9.050	29.691	-9.050	-29.691	102.252	2.311	5.070	2.260	7	5	9	6	5	117.733	1.800	1.061	0.740	23.705	0.992	32.652	32.398	21.796	21.627	94.741	2.301	100.452	-0.006	-0.006	95.289	9.781	96.289	2.168	17.934	66.460	39.464	-0.280	2.224	227.481	0.000	0.000	0.000	9.719	97.195	97.195
236	9.100	29.855	-9.100	-29.855	85.344	3.029	16.720	3.549	6	4	9	6	4	114.551	1.810	1.065	0.745	23.869	0.990	32.704	32.382	19.820	19.625	78.460	3.626	83.535	-0.003	-0.003	78.669	8.126	79.669	2.368	25.109	61.220	38.591	-0.354	2.384	203.542	0.000	0.000	0.000	8.096	80.956	80.956
237	9.150	30.019	-9.150	-30.019	100.796	3.262	73.020	3.236	6	5	8	6	4	114.551	1.819	1.069	0.750	24.033	0.988	38.625	38.169	22.617	22.350	92.592	3.296	98.977	0.015	0.015	91.162	9.438	92.162	2.289	22.133	65.932	39.376	-0.347	2.240	225.844	0.000	0.000	0.000	9.542	95.421	95.421
238	9.200	30.183	-9.200	-30.183	116.340	3.174	6.440	2.728	7	5	9	6	4	117.733	1.829	1.074	0.755	24.197	0.986	37.151	36.637	25.053	24.706	106.685	2.772	114.512	-0.005	-0.005	107.201	11.126	108.201	2.192	18.741	69.984	40.051	-0.327	2.139	248.956	0.000	0.000	0.000	10.991	109.911	109.911
239	9.250	30.347	-9.250	-30.347	123.228	2.450	-6.780	1.988	7	5	9	6	5	117.733	1.839	1.078	0.760	24.361	0.984	39.351	38.724	25.287	24.884	112.617	2.018	121.390	-0.008	-0.008	113.519	11.825	114.519	2.073	15.020	71.572	40.316	-0.279	2.104	259.346	0.000	0.000	0.000	11.617	116.172	116.172
240	9.300	30.511	-9.300	-30.511	93.980	1.885	-12.780	2.006	7	5	9	6	5	117.733	1.848	1.083	0.765	24.526	0.982	30.011	29.471	19.967	19.608	85.116	2.046	92.133	-0.012	-0.013	86.192	9.042	87.192	2.160	17.673	63.746	39.012	-0.251	2.305	216.752	0.000	0.000	0.000	8.841	88.414	88.414
241	9.350	30.675	-9.350	-30.675	64.626	1.698	-15.120	2.627	6	5	8	6	4	114.551	1.858	1.087	0.770	24.690	0.980	24.765	24.270	14.966	14.667	57.753	2.705	62.769	-0.019	-0.020	58.896	6.236	59.896	2.361	24.861	52.954	37.213	-0.250	2.730	176.500	0.000	0.000	0.000	6.067	60.674	60.674
242	9.400	30.840	-9.400	-30.840	72.185	1.363	-13.560	1.888	7	5	8	6	5	117.733	1.867	1.092	0.776	24.854	0.978	23.051	22.545	15.774	15.427	64.439	1.938	70.319	-0.017	-0.017	65.538	6.956	66.538	2.227	19.926	56.067	37.732	-0.215	2.590	187.011	0.000	0.000	0.000	6.763	67.635	67.635
243	9.450	31.004	-9.450	-31.004	82.869	0.969	-11.340	1.169	8	5	9	6	5	120.915	1.877	1.096	0.781	25.018	0.976	19.847	19.370	16.818	16.413	73.905	1.196	80.993	-0.014	-0.014	74.940	7.973	75.940	2.045	14.207	59.962	38.381	-0.177	2.435	201.875	0.000	0.000	0.000	7.748	77.480	77.480
244	9.500	31.168	-9.500	-31.168	74.621	0.603	-12.710	0.808	8	6	8	6	5	120.915	1.887	1.101	0.786	25.182	0.974	17.872	17.404	14.800	14.413	66.080	0.829	72.734	-0.016	-0.016	67.154	7.187	68.154	1.986	12.575	56.894	37.870	-0.133	2.557	190.848	0.000	0.000	0.000	6.962	69.616	69.616
245	9.550	31.332	-9.550	-31.332	60.855	0.707	-12.020	1.162	7	5	8	6	5	117.733	1.897	1.106	0.791	25.346	0.972	19.433	18.884	12.892	12.528	53.339	1.199	58.959	-0.019	-0.020	54.393	5.866	55.393	2.153	17.448	50.988	36.885	-0.146	2.830	172.295	0.000	0.000	0.000	5.665	56.653	56.653
246	9.600	31.496	-9.600	-31.496	42.314	0.843	-9.010	1.992	6	5	8	5	5	114.551	1.906	1.110	0.796	25.510	0.970	16.215	15.726	10.092	9.788	36.411	2.086	40.408	-0.025	-0.027	37.382	4.081	38.382	2.426	27.497	40.515	35.140	-0.162	3.399	143.875	0.000	0.000	0.000	3.931	39.314	39.314
247	9.650	31.660	-9.650	-31.660	29.533	0.702	3.730	2.377	6	4	7	5	4	114.551	1.916	1.115	0.801	25.675	0.968	11.317	10.955	7.797	6.832	24.791	2.542	27.618	-0.023	-0.025	25.405	2.818	26.405	2.636	37.153	30.153	33.413	-0.141	0.000	0.000	0.000	0.000	0.000	2.739	27.387	24.791
248	9.700	31.824	-9.700	-31.824	22.425	0.617	79.260	2.751	5	4	6	5	4	114.551	1.925	1.119	0.806	25.839	0.966	10.741	10.378	6.405	5.465	18.331	3.010	20.500	0.074	0.081	16.840	1.911	17.840	2.785	45.121	0.000	32.088	-0.111	0.000	0.000	0.000	0.000	0.000	2.076	20.755	18.331
249	9.750	31.988	-9.750	-31.988	16.661	0.477	121.900	2.863	5	5	3	5	4	3	114.551	1.935	1.123	0.811	26.003	0.964	7.981	7.696	5.142	4.226	13.119	3.239	14.727	0.180	0.203	10.452	1.232	11.452	2.920	53.258	0.000	0.000	0.000	0.000	0.000	0.982	0.374	3.731	1.539	15.391	13.119
250	9.800	32.152	-9.800	-32.152	30.391	0.469	165.120	1.543	6	5	5	5	5	114.551	1.944	1.127	0.817	26.167	0.962	11.646	11.208	7.436	7.157	25.245	1.649	28.448	0.143	0.152	21.395	2.418	22.395	2.481	29.846	30.810	33.522	-0.081	0.000	0.000	0.000	0.000	0.000	2.802	28.021	28.021
251	9.850	32.316	-9.850	-32.316	74.734	0.471	56.720	0.630	8	6	8	6	6	120.915	1.954	1.132	0.822	26.331	0.961	17.899	17.192	14.516	13.943	64.328	0.647	72.781	0.013	0.013	63.489	6.990	64.489	1.931	11.151	56.543	37.811	-0.108	2.578	192.723	0.000	0.000	0.000	6.877	68.769	68.769
252	9.900	32.480	-9.900	-32.480	96.385	0.636	13.640	0.660	8	6	9	6	6	120.915	1.963	1.137	0.827	26.495	0.958	23.084	22.126	18.164	17.410	83.103	0.674	94.422	-0.004	-0.004	83.456	9.193	84.456	1.849	9.199	63.775	39.017	-0.136	2.315	223.224	0.000	0.000	0.000	8.550	88.504	88.504
253	9.950	32.644	-9.950	-32.644	96.813	0.431	21.350	0.445	9	6	9	6	6	124.097	1.974	1.142	0.832	26.659	0.956	18.549	17.741	17.654	16.885	83.111	0.454	94.841	-0.002	-0.002	83.256	9.211	84.256	1.757	5.000	63.840	39.027	-0.103	2.314	224.117	0.000	0.000	0.000	8.871	88.705	88.705
254	10.000	32.808	-10.000	-32.808	94.623	0.474	24.580	0.501	9	6	9	6	6	124.097	1.984	1.147	0.837	26.824	0.954	18.130	17.301	17.473	16.675	80.825	0.512	92.641	-0.001	-0.001	80.885	8.991	81.885	1.792	7.961	63.121	38.908	-0.110	2.337	221.254	0.000	0.000	0.000	8.651	86.507	86.507
255	10.050	32.972	-10.050	-32.972	81.573	0.527	43.680	0.646	8	6	8	6	6	120.915	1.994	1.152	0.842	26.988	0.952	19.537	18.604	15.707	14.957	69.133	0.662	79.580	0.006	0.007	68.680	7.684	69.680	1.907	10.573	58.805	38.188	-0.117	2.490	203.196	0.000	0.000	0.000	7.442	74.416	74.416
256	10.100	33.136	-10.100	-33.136	77.055	0.546	29.610	0.709	8	6	8	6	6	120.915	2.004	1.156	0.847	27.152	0.950	18.455	17.537	15.083	14.333	64.929	0.727	75.052	0.001	0.001	64.862	7.293	65.862	1.951	11.668	57.113	37.906	-0.119	2.559	197.259	0.000	0.000	0.000	7.015	70.149	70.149
257	10.150	33.300	-10.150	-33.300	70.651	0.561	29.040	0.794	8	6	8	6	5	120.915	2.014	1.161	0.852	27.316	0.948	16.921	16.047	14.151	13.420	59.135	0.817	68.639	0.001	0.001	59.088	6.682	60.088	2.012	13.264	54.566	37.482	-0.120	2.671	188.776	0.000	0.000	0.000	6.419	64.186	64.186
258	10.200	33.464	-10.200	-33.464	64.952	0.547	29.130	0.842	8	5	8	6	5	120.915	2.024	1.166	0.858	27.480	0.946	15.556	14.722	13.245	12.534	53.993	0.869	62.929	0.001	0.001	53.948	6.135	54.948	2.058	14.557	52.096	37.070	-0.117	2.789	181.194	0.000	0.000	0.000	5.889	58.887	58.887
259	10.250	33.628	-10.250	-33.628	56.313	0.508	29.290	0.902	8	5	8	6	5	120.915	2.033	1.171	0.863	27.644	0.944	13.487	12.737	11.808	11.152	46.381	0.936	54.280	0.001	0.001	46.337	5.307	47.337	2.128	16.655	47.947	36.379	-0.109	3.002	169.125	0.000	0.000	0.000	5.095	50.950	50.950
260	10.300	33.792	-10.300	-33.792	48.772	0.458	30.680	0.939	7	5	8	6	5	117.733	2.043	1.175	0.868	27.808	0.943	15.574	14.680	10.498	9.895	39.771	0.980	46.729	0.002	0.002	39.694	4.581	40.694	2.191	18.706	43.769	35.682	-0.098	3.232	157.683	0.000	0.000	0.000	4.404	44.039	44.039
261	10.350	33.956	-10.350	-33.956	41.163	0.431	30.880	1.047	7	5	8	6	5	117.733	2.053	1.180	0.873	27.972	0.941	13.145	12.366	9.205	8.659	33.159	1.102	39.111	0.002	0.002	33.081	3.851	34.081	2.282	21.845	38.852	34.863	-0.091	3.511	144.572	0.000	0.000	0.000	3.710	37.097	37.097
262	10.400	34.120	-10.400	-34.120	33.282	0.367	32.330	1.103	7	5	7	5	5	117.733	2.063	1.185	0.878	28.137	0.939	10.628	9.979	7.754	7.281	26.367	1.176	31.220	0.004	0.004	26.256	3.092	27.256	2.375	25.397	32.705	33.838	-0.074	0.000	0.000	0.000	0.000	0.000	2.994	29.937	29.937
263	10.450	34.284	-10.450	-34.284	27.255	0.281	44.000	1.031	7	5	7	5	5	117.733	2.072	1.189	0.883	28.301	0.937	8.703	8.156	6.533	6.122	21.188	1.116	25.183	0.018	0.019	20.775	2.479	21.775	2.437	27.946	0.000	32.875	-0.047	0.000	0.000	0.000	0.000	0.000	2.447	24.469	24.469
264	10.500	34.448	-10.500	-34.448	25.748	0.171	49.320	0.664	7	5	7	5	5	117.733	2.082	1.194	0.888	28.465	0.935	8.222	7.691	5.978	5.592	19.836	0.723	23.667	0.025	0.028	19.290	2.319	20.290	2.367	25.089	0.000	32.594	-0.008	0.000	0.000	0.000	0.000	0.000	2.307	23.072	23.072
265	10.550	34.612	-10.550	-34.612	27.028	0.110	46.110	0.407	7	5	7	5	5	117.733	2.092	1.198	0.893	28.629	0.934	8.631	8.058	5.985	5.587	20.822	0.441	24.937	0.020	0.022	20.366	2.451	21.366	2.259	5.000	0.000	32.817	0.024	0.000	0.000	0.000	0.000	0.000	2.417	24.173	24.173
266	10.600	34.776	-10.600	-34.776	23.538	0.080	42.940	0.340	7	5	7	5	5	117.733	2.101	1.203	0.899	28.793	0.932	7.516	7.004	5.280	4.920	17.832	0.373	21.438	0.019	0.021	17.465	2.127	18.465	2.289	5.000	0.000	32.147	0.050	0.000	0.000	0.000	0.000	0.000	2.101	21.012	21.012
267	10.650	34.941	-10.650	-34.941	24.100	0.042	41.580	0.174	7	5	7	5	1	117.733	2.111	1.207	0.904	28.957	0.930	7.696	7.158	5.197	4.834	18.223	0.191	21.990	0.016	0.018	17.896	2.184	18.896	2.196	5.000	0.000	32.251	0.099	0.000	0.000	0.000	0.000	0.000	2.147	21.473	21.473
268	10.700	35.105	-10.700	-35.105	24.673	0.020	30.870	0.081	7	0	7	5	0	117.733	2.121	1.212	0.909	29.121	0.928	7.879	7.314	0.000	0.000	18.620	0.089	22.553	0.002	0.002	18.574	2.271	19.574	2.135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.194	21.942	21.942
269	10.750	35.269	-10.750	-35.269	21.807	0.022	28.370	0.101	7	5	7	5	1	117.733	2.130	1.216	0.914	29.286	0.927	6.964	6.453	4.710	4.364	16.185	0.112	19.678	-0.001	-0.001	16.208	2.004	17.208	2.200	5.000	0.000	31.755	0.150	0.000	0.000	0.000	0.000	0.000	1.936	19.358	19.358
270	10.800	35.433	-10.800	-35.433	16.996	0.017	42.590	0.100	7	5	6	4	1	117.733	2.140	1.221	0.919	29.450	0.925	5.427	5.020	3.846	3.557	12.175	0.114	14.857	0.024	0.028	11.838	1.501	12.838	2.309	5.000	0.000	30.556	0.175	0.000	0.000	0.000	0.000	0.000	1.506	15.059	15.059
271	10.850	35.597	-10.850	-35.597	15.274	0.018	55.180	0.118	6	5	6	4	1	114.551	2.149	1.225	0.924	29.614	0.923	5.853	5.404	3.546	3.273	10.717	0.137	13.126	0.052	0.061	10.065	1.298	11.065	2.366	25.065	0.000	30.037	0.175	0.000	0.000	0.000	0.000	0.000	1.351	13.509	13.509
272	10.900	35.761	-10.900	-35.761	13.737	0.032	58.720	0.233	6	5	5	4	1	114.551	2.159	1.230	0.929	29.778	0.922	5.264	4.851	3.353	3.090	9.421	0.276	11.579	0.066	0.078	8.686	1.140	9.686	2.476	29.631	0.000	29.522	0.134	0.000	0.000	0.000	0.000	0.000	1.213	12.128	12.128
273	10.950	35.925	-10.950	-35.925	15.002	0.052	54.780	0.347	6	5	5	4	1	114.551	2.168	1.234	0.934	29.942	0.920	5.749	5.289	3.687	3.392	10.407	0.405	12.835	0.052	0.060	9.778	1.273	10.778	2.490	30.249	0.000	29.934	0.095	0.000	0.000	0.000	0.000	0.000	1.322	13.222	13.222
274	11.000	36.089	-11.000	-36.089	17.714	0.065	40.720	0.367	7	5	6	5	5	117.733	2.178	1.238	0.940	30.106	0.918	5.657	5.195	4.228	3.883	12.554	0.418	15.537	0.019	0.021	12.285	1.575	13.285	2.428	27.560	0.000	30.720	0.073	0.000	0.000	0.000	0.000	0.000	1.558	15.585	15.585
275	11.050	36.253	-11.050	-36.253	20.575	0.059	26.380	0.287	7	5	7	5	5	117.733	2.187	1.243	0.945	30.270	0.917	6.570	6.023	4.697	4.306	14.803	0.321	18.388	-0.006	-0.007	14.900	1.892	15.900	2.329	5.000	0.000	31.426	0.075	0.000	0.000	0.000	0.000	0.000	1.807	18.068	18.068
276	11.100	36.417	-11.100	-36.417	19.273	0.058	29.370	0.301	7	5	7	5	5	117.733	2.197	1.247	0.950	30.435	0.915	6.155	5.632	4.470	4.090	13.697	0.340	17.077	-0.002	-0.002	13.724	1.759	14.724	2.365	24.994	0.000	31.105	0.078	0.000	0.000	0.000	0.000	0.000	1.689	16.895	16.895
277	11.150	36.581	-11.150	-36.581	16.493	0.072	29.270	0.437	6	5	6	4	5	114.551	2.207	1.252	0.955	30.599	0.913	6.320	5.773	4.049	3.698	11.419	0.504	14.287	-0.002	-0.003	11.452	1.492	12.452	2.488	30.149

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
325	13.550	44.455	-13.550	-44.455	30.876	0.121	13.730	0.392	7	5	7	5	5	117.733	2.660	1.459	1.201	38.477	0.846	9.860	8.342	6.783	5.739	19.349	0.429	28.217	-0.025	-0.027	19.879	2.917	20.879	2.240	5.000	0.000	32.982	0.028	0.000	0.000	0.000	0.000	0.000	0.000	2.503	25.025	25.025
326	13.600	44.619	-13.600	-44.619	21.118	0.153	23.670	0.725	7	4	7	4	5	117.733	2.669	1.463	1.206	38.641	0.845	6.744	5.697	5.554	3.462	12.612	0.829	18.450	-0.022	-0.025	12.931	1.952	13.931	2.629	36.773	0.000	31.160	0.019	0.000	0.000	0.000	0.000	0.000	0.000	1.709	17.090	12.612
327	13.650	44.783	-13.650	-44.783	13.529	0.143	38.340	1.057	6	4	6	4	4	114.551	2.679	1.468	1.211	38.806	0.843	5.184	4.373	4.190	2.391	7.396	1.318	10.852	-0.001	-0.001	7.405	1.181	8.405	2.926	53.625	0.000	29.026	0.042	0.000	0.000	0.000	0.000	0.000	0.000	1.093	10.932	7.396
328	13.700	44.947	-13.700	-44.947	7.155	0.091	56.810	1.272	5	3	4	3	3	114.551	2.688	1.472	1.216	38.970	0.842	3.427	2.886	2.982	1.321	3.036	2.037	4.468	0.078	0.125	2.657	0.516	3.657	3.356	85.845	0.000	0.000	0.000	0.000	0.000	0.000	0.298	0.070	0.735	0.577	5.773	3.036
329	13.750	45.111	-13.750	-45.111	5.532	0.046	72.360	0.832	1	3	3	3	1	111.369	2.697	1.476	1.221	39.134	0.841	2.650	2.229	2.590	0.939	1.921	1.622	2.835	0.188	0.366	1.218	0.314	2.218	3.493	98.224	0.000	0.000	0.000	0.000	0.000	0.000	0.189	0.130	0.583	0.446	4.457	1.921
330	13.800	45.275	-13.800	-45.275	5.383	0.012	82.240	0.223	1	1	3	2	0	111.369	2.707	1.480	1.226	39.298	0.840	2.579	2.166	0.000	0.000	1.810	0.448	2.678	0.249	0.501	0.903	0.270	1.903	3.328	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.179	0.168	0.571	0.433	4.332	1.810
331	13.850	45.439	-13.850	-45.439	5.908	0.013	89.440	0.220	1	1	3	2	1	111.369	2.716	1.484	1.231	39.462	0.839	2.830	2.374	0.000	0.000	2.153	0.407	3.194	0.264	0.489	1.101	0.299	2.101	3.245	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.213	0.195	0.611	0.475	4.748	2.153
332	13.900	45.603	-13.900	-45.603	7.244	0.021	95.170	0.290	1	1	3	3	1	111.369	2.725	1.488	1.237	39.626	0.838	3.470	2.907	0.000	0.000	3.038	0.465	4.520	0.239	0.384	1.873	0.409	2.873	3.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.301	0.217	0.736	0.581	5.813	3.038
333	13.950	45.767	-13.950	-45.767	7.071	0.033	94.650	0.467	1	1	3	3	1	111.369	2.734	1.492	1.242	39.790	0.837	3.387	2.833	0.000	0.000	2.908	0.761	4.338	0.242	0.395	1.760	0.394	2.760	3.202	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.289	0.214	0.716	0.567	5.666	2.908
334	14.000	45.931	-14.000	-45.931	6.938	0.040	92.650	0.577	1	1	3	3	1	111.369	2.743	1.496	1.247	39.955	0.835	3.323	2.776	0.000	0.000	2.806	0.953	4.196	0.237	0.392	1.705	0.388	2.705	3.251	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.280	0.206	0.700	0.555	5.553	2.806
335	14.050	46.095	-14.050	-46.095	7.605	0.074	92.090	0.973	1	3	3	3	1	111.369	2.752	1.500	1.252	40.119	0.834	3.643	3.039	2.977	1.323	3.236	1.525	4.854	0.213	0.334	2.154	0.453	3.154	3.276	79.050	0.000	0.000	0.000	0.000	0.000	0.000	0.324	0.203	0.767	0.608	6.078	3.236
336	14.100	46.259	-14.100	-46.259	7.583	0.083	96.610	1.095	1	3	3	3	1	111.369	2.761	1.504	1.257	40.283	0.833	3.632	3.026	3.029	1.337	3.207	1.721	4.823	0.232	0.365	2.037	0.438	3.037	3.302	81.239	0.000	0.000	0.000	0.000	0.000	0.000	0.322	0.220	0.763	0.605	6.053	3.207
337	14.150	46.423	-14.150	-46.423	7.503	0.080	96.550	1.066	1	3	3	3	1	111.369	2.771	1.508	1.262	40.447	0.832	3.594	2.990	3.008	1.314	3.139	1.690	4.733	0.234	0.370	1.977	0.430	2.977	3.307	81.649	0.000	0.000	0.000	0.000	0.000	0.000	0.316	0.219	0.752	0.598	5.980	3.139
338	14.200	46.587	-14.200	-46.587	7.317	0.050	89.280	0.683	1	3	3	3	1	111.369	2.780	1.512	1.267	40.611	0.831	3.505	2.912	2.806	1.202	3.002	1.102	4.539	0.208	0.335	1.997	0.434	2.997	3.248	76.781	0.000	0.000	0.000	0.000	0.000	0.000	0.303	0.190	0.730	0.582	5.825	3.002
339	14.250	46.751	-14.250	-46.751	7.056	0.043	89.120	0.609	1	1	3	3	1	111.369	2.789	1.516	1.272	40.775	0.830	3.380	2.805	0.000	0.000	2.816	1.007	4.269	0.214	0.354	1.820	0.410	2.820	3.259	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.285	0.189	0.702	0.561	5.610	2.816
340	14.300	46.915	-14.300	-46.915	6.729	0.044	103.980	0.654	1	3	3	3	1	111.369	2.798	1.520	1.278	40.939	0.829	3.223	2.671	2.704	1.085	2.587	1.119	3.932	0.293	0.501	1.292	0.334	2.292	3.310	81.900	0.000	0.000	0.000	0.000	0.000	0.000	0.262	0.246	0.669	0.534	5.343	2.587
341	14.350	47.079	-14.350	-47.079	6.438	0.050	98.990	0.777	1	3	3	3	1	111.369	2.807	1.524	1.283	41.104	0.828	3.084	2.552	2.732	1.056	2.383	1.377	3.632	0.281	0.498	1.197	0.321	2.197	3.378	87.761	0.000	0.000	0.000	0.000	0.000	0.000	0.242	0.226	0.641	0.510	5.105	2.383
342	14.400	47.244	-14.400	-47.244	5.561	0.049	88.310	0.881	1	3	3	2	0	111.369	2.816	1.528	1.288	41.268	0.827	2.664	2.202	2.710	0.914	1.797	1.784	2.746	0.264	0.535	0.836	0.269	1.836	3.536	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.183	0.184	0.569	0.440	4.404	1.797
343	14.450	47.408	-14.450	-47.408	4.954	0.044	87.220	0.888	1	3	3	2	0	111.369	2.825	1.532	1.293	41.432	0.825	2.373	1.959	2.744	0.804	1.391	2.065	2.130	0.289	0.671	0.457	0.214	1.457	3.664	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.142	0.179	0.528	0.392	3.918	1.391
344	14.500	47.572	-14.500	-47.572	5.105	0.059	92.070	1.156	1	3	3	2	0	111.369	2.835	1.536	1.298	41.596	0.824	2.445	2.016	2.885	0.872	1.479	2.598	2.271	0.309	0.694	0.453	0.214	1.453	3.683	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.151	0.197	0.536	0.403	4.032	1.479
345	14.550	47.736	-14.550	-47.736	5.462	0.077	90.050	1.410	1	3	3	2	0	111.369	2.844	1.541	1.303	41.760	0.823	2.616	2.154	2.990	0.972	1.701	2.939	2.620	0.276	0.576	0.722	0.254	1.722	3.653	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.175	0.189	0.559	0.431	4.308	1.701
346	14.600	47.900	-14.600	-47.900	6.669	0.133	95.940	1.994	4	3	3	3	2	114.551	2.853	1.545	1.308	41.924	0.822	4.259	3.502	3.280	1.269	2.472	3.484	3.817	0.253	0.442	1.380	0.352	2.380	3.546	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.255	0.211	0.653	0.525	5.253	2.472
347	14.650	48.064	-14.650	-48.064	6.987	0.195	98.790	2.791	4	3	3	3	2	114.551	2.862	1.549	1.313	42.088	0.821	4.462	3.664	3.571	1.422	2.665	4.727	4.126	0.253	0.429	1.521	0.374	2.521	3.586	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.275	0.221	0.680	0.550	5.496	2.665
348	14.700	48.228	-14.700	-48.228	7.758	0.247	108.600	3.184	3	3	3	3	2	111.369	2.872	1.553	1.319	42.253	0.820	7.432	6.094	3.795	1.608	3.148	5.054	4.888	0.267	0.424	1.814	0.418	2.814	3.540	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.326	0.259	0.753	0.609	6.094	3.148
349	14.750	48.392	-14.750	-48.392	8.275	0.327	93.700	3.952	3	3	3	3	2	111.369	2.881	1.557	1.324	42.417	0.819	7.927	6.492	4.082	1.785	3.466	6.061	5.395	0.194	0.297	2.437	0.513	3.437	3.549	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.360	0.200	0.806	0.649	6.492	3.466
350	14.800	48.556	-14.800	-48.556	9.490	0.456	89.710	4.805	3	3	4	3	2	111.369	2.890	1.561	1.329	42.581	0.818	9.091	7.436	4.518	2.102	4.230	6.908	6.601	0.155	0.223	3.287	0.641	4.287	3.511	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.440	0.184	0.946	0.744	7.436	4.230
351	14.850	48.720	-14.850	-48.720	15.027	0.647	74.740	4.306	3	3	5	4	3	111.369	2.899	1.565	1.334	42.745	0.817	14.395	11.759	5.698	3.068	7.753	5.334	12.129	0.067	0.082	7.114	1.216	8.114	3.233	75.574	0.000	0.000	0.000	0.000	0.000	0.000	0.809	0.125	1.813	1.176	11.759	7.753
352	14.900	48.884	-14.900	-48.884	20.916	0.981	106.690	4.690	3	3	5	4	3	111.369	2.908	1.569	1.339	42.909	0.816	20.038	16.346	7.248	4.153	11.482	5.447	18.009	0.095	0.111	10.212	1.685	11.212	3.104	65.766	0.000	0.000	0.000	0.000	0.000	0.000	1.201	0.249	3.076	1.635	16.346	11.482
353	14.950	49.048	-14.950	-49.048	35.460	1.111	113.730	3.133	5	4	6	5	3	114.551	2.917	1.573	1.344	43.073	0.815	16.985	13.838	10.087	6.145	20.694	3.414	32.544	0.062	0.068	19.291	3.057	20.291	2.777	44.705	30.454	33.463	-0.146	0.000	0.000	0.000	0.000	0.000	2.768	27.676	20.694
354	15.000	49.212	-15.000	-49.212	52.631	2.029	129.950	3.855	5	4	7	5	3	114.551	2.927	1.578	1.349	43.237	0.814	25.210	20.511	14.290	8.933	31.521	4.082	49.706	0.051	0.054	29.804	4.653	30.804	2.690	39.949	41.735	35.343	-0.245	3.446	181.420	0.000	0.000	0.000	4.102	41.023	31.521
355	15.050	49.376	-15.050	-49.376	91.275	2.562	92.170	2.807	6	5	8	6	4	114.551	2.936	1.582	1.354	43.401	0.813	34.977	28.419	20.888	16.972	55.870	2.900	88.340	0.017	0.017	54.907	8.469	55.907	2.335	23.822	57.477	37.967	-0.254	2.632	240.359	0.000	0.000	0.000	7.105	71.047	71.047
356	15.100	49.540	-15.100	-49.540	97.153	2.781	54.900	2.863	6	5	9	6	4	114.551	2.946	1.586	1.360	43.566	0.811	37.229	30.208	22.109	17.939	59.420	2.952	94.208	0.004	0.004	59.197	9.143	60.197	2.322	23.338	59.227	38.259	-0.267	2.562	249.055	0.000	0.000	0.000	7.552	75.520	75.520
357	15.150	49.704	-15.150	-49.704	92.046	2.762	65.040	3.001	6	4	9	6	4	114.551	2.955	1.590	1.365	43.730	0.810	35.272	28.582	21.245	17.215	56.042	3.100	89.092	0.007	0.007	55.623	8.624	56.623	2.354	24.566	57.641	37.994	-0.269	2.627	241.923	0.000	0.000	0.000	7.145	71.454	71.454
358	15.200	49.868	-15.200	-49.868	74.066	2.583	28.210	3.487	6	4	8	6	4	114.551	2.964	1.595	1.370	43.894	0.809	28.382	22.968	18.020	14.583	44.607	3.633	71.103	-0.007	-0.007	44.913	7.011	45.913	2.469	29.322	51.373	36.950	-0.275	2.919	216.288	0.000	0.000	0.000	5.742	57.419	57.419
359	15.250	50.032	-15.250	-50.032	68.978	2.651	30.070	3.843	5	4	8	6	4	114.551	2.974	1.599	1.375	44.058	0.808	33.040	26.701	17.887	11.179	41.298	4.016	66.005	-0.006	-0.007	41.570	6.518	42.570	2.601	35.394	49.295	36.603	-0.292	3.028	208.950	0.000	0.000	0.000	5.340	53.403	41.298
360	15.300	50.196	-15.300	-50.196	58.870	2.718	11.140	4.617	4	4	8	6	3	114.551	2.983	1.603	1.380	44.222	0.807	37.598	30.344	16.160	9.993	34.874	4.863	55.888	-0.018	-0.018	35.518	5.606	36.518	2.711	41.062	44.714	35.840	-0.337	3.281	193.243	0.000	0.000	0.000	4.552	45.516	34.874
361	15.350	50.360	-15.350	-50.360	58.471	2.821	22.620	4.825	4	3	8	6	3	114.551	2.993	1.607	1.385	44.386	0.806	37.344	30.099	16.194	9.982	34.528	5.085	55.480	-0.012	-0.012	34.950	5.534	35.950	2.728	41.965	0.000	0.000	0.000	0.000	0.000	0.000	3.700	0.000	10.000	4.515	45.148	34.528
362	15.400	50.524	-15.400	-50.524	81.251	2.907	86.600	3.578	6	4	8	6	4	114.551	3.002	1.612	1.390	44.550	0.805	31.135	25.062	19.594	15.771	48.569	3.715	78.250	0.016	0.017	47.754	7.525	48.754	2.450	28.503	53.874	37.366	-0.290	2.800	227.574	0.000	0.000	0.000	6.265	62.654	62.654
363	15.450	50.688	-15.450	-50.688	119.237	3.340	89.300	2.801	7	5	9	6	4	117.733	3.012	1.616	1.395	44.715	0.804	38.077	30.607	26.370	21.197	71.945	2.874	116.227	0.012	0.012	71.083	11.156	72.083	2.256	20.917	64.829	39.192	-0.284	2.376	283.427	0.000	0.000	0.000	9.182	91.821	91.821
364	15.500	50.852	-15.500	-50.852	114.341	3.527	77.000	3.085	6	5	9	6	4	114.551	3.021	1.621	1.400	44.879	0.803	43.815	35.172	25.773	20.688	68.720	3.168	111.321	0.009	0.009	68.101	10.724	69.101	2.300	22.517	63.588	38.986	-0.299	2.415	276.281	0.000	0.000	0.000	8.793	87.930	87.930
365	15.550	51.016	-15.550	-51.016	122.907	3.512	327.950	2.857	7	5	8	6	4	117.733	3.031	1.625	1.406	45.043	0.802	39.248	31.463	27.162	21.774	73.802	2.930	119.878	0.072	0.074	68.365	10.794	69.365	2.254	20.856	65.620	39.324	-0.283	2.354	289.483	0.000	0.000	0.000	9.439	94.390	94.390
366	15.600	51.180	-15.600	-51.180	134.421	3.458	528.750	2.573	7	5	7	6	4	117.733	3.040	1.630	1.411	45.207	0.801	42.925	34.363	28.963	23.186	80.659	2.632	131.382	0.112	0.115	71.393	11.296	72.393	2.194	18.787	68.147	39.745	-0.269	2.285	307.332	0.000	0.000	0.000	10.309	103.088	103.088
367	15.650	51.345	-15.650	-51.345	126.783	3.307	828.670	2.608	7	5	0	5	4	117.733	3.050	1.634	1.416	45.371	0.799	40.486	32.365	27.573	22.042	75.753	2.673	123.734	0.193	0.198	60.784	9.668	61.784	2.216	19.538	66.431	39.459	-0.252	2.333	295.895	0.000	0.000	0.000	9.710	97.096	97.096
368	15.700	51.509	-15.700	-51.509	130.364	3.513	952.190	2.695	7	5	0	5	4	117.733	3.060	1.639	1.421	45.535	0.798	41.630	33.233	28.384	22.659	77.724	2.759	127.306	0.217	0.222	60.446	9.642	61.446	2.219	19.631	67.189	39.586	-0.257	2.313	301.625	0.000	0.000	0.000	9.970	99.700	99.700
369	15.750	51.673	-15.750	-51.673	142.754	3.784	1117.220	2.651	7	5	0	5	4	117.733	3.069	1.643	1.426	45.699	0.797	45.586	36.342	30.674	24.453	85.047	2.709	139.687	0.234	0.239	64.683	10.335	65.683	2.187	18.567	69.752	40.013	-0.262	2.247	320.834	0.000	0.000	0.000	10.902	109.025	109.025
370	15.800	51.837	-15.800	-51.837	160.075	3.745	793.730	2.340	7	5	7	6	5	117.733	3.079	1.648	1.431	45.864	0.796	51.117	40.695	33.373	26.569	95.324	2.385	156.997	0.146	0.149	81.150	12.962	82.150	2.113	16.213	72.995	40.553	-0.267	2.167	347.064	0.000	0.000	0.000	12.208	122.084	122.084
371	15.850	52.001	-15.850	-52.001	117.203	3.440	839.880	2.935	6	5	0	5	4	114.551	3.088	1.652	1.436	46.028	0.795	44.912	35.707	26.184	20.818	69.103	3.014	114.116	0.211	0.217	54.097	8.717	55.097	2.279	21.765	64.021	39.058	-0.259	2.408	282.314	0.000	0.000	0.000	8.927	89.268	89.268
372	15.900	52.165	-15.900	-52.165	132.441	4.461	1302.500	3.368	6	5	0	5	4	114.551	3.098	1.656	1.441	46.192	0.794	50.751	40.298	29.716	23.595	78.122	3.449	129.345	0.296	0.303	54.437	8.793	55.437	2.289	22.127	67.488	39.635	-0.289	2.308	305.795	0.000	0.000	0.000	10.074	100.744	100.744
373	15.950	52.329	-15.950	-52.329	177.645	3.891	1545.030	2.190	7	5	0	0	5	117.733	3.107	1.661	1.447	46.356	0.793	56.728	44.983	36.297	28.782	105.139	2.229	174.539	0.263	0.268	76.960	12.398	77.960	2.063	14.703	75.867	41.032	-0.251	2.099	373.024	0.000	0.000	0.000	13.495	134.950	134.950
374	16.000	52.493	-16.000	-52.493	244.225	6.731	1545.030	2.756	7	5	0	0	4	117.733	3.117	1.665	1.452	46.520	0.792	77.989	61.758	49.739	39.387	144.844	2.792	241.109	0.192	0.194	116.745	18.777	117.745	2.054	14.465	84.951	42.546	-0.339	1.989	485.926	0.000	0.000	0.000	18.527	185.275	185.275
375	16.050	52.657	-16.050	-52.657	280.878	7.115	167.850	2.533	7	5	9	6	8	117.733	3.127	1.670	1.457	46.684	0.791	89.694	70.930	55.773	44.106	166.404	2.562	277.752	0.013	0.014	164.137	26.406	165.137	1.989	12.655	88.920	43.207	-0.362	0.000	0.000	0.000	0.000	0.000	0.000	21.279	212.791	212.791
376	16.100	52.821	-16.100	-52.821	181.556	7.665	596.800	4.222	11	9	8	6	8	130.461	3.137	1.675	1.462	46.848	0.790	173.930	137.337	0.000	0.000	106.570	4.296	178.420	0.095	0.096	96.316	15.608	97.316	2.282	0.000	76.369	41.116	-0.449	2.089	379.375	0.000	0.000	0.000	13.734	137.337	137.337
377	16.150	52.985	-16.150	-52.985	180.095	5.485	1545.030	3.046	7	5	0	0	4	117.733	3.147	1.680	1.467	47.013	0.788	57.510	45.342	38.444	30.310	105.373	3.100	176.949	0.260	0.264	77.528	12.633	78.528	2.171	18.046	76.095	41.070	-0.311	2.096	377.678	0.000	0.000	0.000	13.603	136.027	136.027
378	16.200	53.149	-16.200	-53.149	254.475	6.911	1545.030	2.716	7	5	0	0	8	117.733	3.157	1.684	1.472	47.177	0.787	81.262	63.983	51.537	40.578	149.258	2.750	251.320	0.184	0.186	121.490	19.759	122.490	2.040	14.057	85.965	42.715	-0.341	2.029	516.575	0.000	0.000	0.000	19.195	191.948	191.948
379	16.250	53.313	-16.250	-53.313	243.105	7.369	1545.030	3.031	12	8	0	0	8	120.915	3.166	1.689	1.477	47.341	0.786	116.447	91.559	0.000	0.000	142.105	3.071	239.940	0.192	0.195	114.418	18.669	115.418	2.091	0.000	84.616	42.490	-0.359	1.983	482.241	0.000	0.000	0.000	18.312	183.118	183.118
380	16.300	53.477	-16.300	-53.477	190.735	5.712	1545.030	2.995	7	5	0	0	4	117.733	3.176	1.694	1.482	47.505	0.785	60.908	47.824	40.379	31.705	110.777	3.045	187.560	0.245	0.249	83.169	13.652	84.169	2.151	17.393	77.622	41.324	-0.316	2.061	393.236	0.000	0.000	0.000	14.347	143.472	143.472
381	16.350	53.641	-16.350	-53.641	168.805	4.472	1545.030	2.649	7	5	0	0	4	117.733	3.186	1.698	1.488	47.669	0.784	53.905	42.269	35.629	27.938	97.558	2.700	165.621	0.277	0.282	70.026	11.551	71.026	2.144	17.160	74.083	40.735	-0.271	2.149	362.885	0.000	0.000	0.000	12.681	126.807	126.807
382	16.400	53.805	-16.400	-53.805	164.355	5.007	1545.030	3.046	7	5	0	0	4	117.733	3.196	1.703	1.493	47.833	0.783	52.484	41.100	35.483	27.786	94.678	3.107	161.161	0.284	0.290	67.223	11.125	68.223	2.199	18.947	73.279	40.601	-0.293	2.169	356.705	0.000	0.000	0.000	12.330	123.299	123.299
383	16.450	53.969	-16.450	-53.969	180.045	4.700	1545.030	2.610	7	5	0	0	4	117.733	3.205	1.707	1.498	47.997	0.782	57.494	44.963	37.659	29.451	103.614	2.658	176.841	0.260	0.264	76.235	12.628	77.235	2.121	16.461	75.854	41.030	-0.278	2.106	379.392	0.000	0.000	0.000	13.489	134.890	134.890
384	16.500	54.133	-16.500	-54.133	173.605	5.559	1545.030	3.202	6	5	0	0	4	114.551	3.215	1.712	1.503	48.162	0.781	66.526	51.959	37.520	29.305	99.578	3.262	170.392	0.269	0.274	72.272	12.011	73.272	2.201	19.032	74.773	40.850	-0.314	2.

	A	B	C	D	E	F	G	H	I	J
1		ConeTec CPT Interpretations								
2		Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011								
3		DAS Version: W47								
4		Interpretation Format:			All but Liquefaction Parameters (NLI)					
5		Run ID:			1347638918					
6		Job No:			12-972					
7		Client:			TertaTech					
8		Project:			Dump Road					
9		Facility:			Dump Road					
10		Sounding ID:			DR-CPT-18					
11		Cone ID:			167:T1500F15U500					
12		Operator:			TS-TW					
13		CPT Date:			Aug-31-2012					
14		CPT Time:			10:53					
15		CPT File:			972CP18.COR					
16										
17		Tip Units:			tsf					
18		Sleeve Units:			tsf					
19		PP Units:			ft					
20		Tip Conversion to bar:			0.9580					
21		Sleeve Conversion to bar:			0.9580					
22		PP Conversion to meters:			0.3050					
23										
24		Col 5 (Extra Module) Parameter			N/A					
25		Col 5 (Extra Module) Units			N/A					
26										
27		Coord Source:								
28		Coord Type:								
29		UTM Zone:			N/A					
30		Easting / Long:			76.412240					
31		Northing / Lat:			39.326870					
32		Elevation:			0.000					
33										
34		Tip Net Area Ratio:			0.80					
35		Unit Weight of Soil Base:			Based on Soil Zones					
36		Unit Weight of Soil (Def):			18.64	kN/m^3	118.62	pcf		
37		Unit Weight of Water:			9.81	kN/m^3	62.43	pcf		
38		Equilibrium U Profile Used:			No					
39		Soil Unit Weight Profile Used:			No					
40		Water Table			2.74	m	9.00	ft		
41		Averaging Interval:			0.00	m	0.00	ft		
42										
43		Su Factors Nkt and Ndu:			15.0	8.0				
44		Cn Exp. and Limits:			0.50	0.00	1.70			
45		Qc1 Exp. and Limits:			0.50	0.00	1.70			
46		State Parameter M:			1.20					
47		NC Su / p':			0.30					
48		Relative Density Method:			All Sands - Jamilokowski (1985)					
49		Phi Angle Method:			Kulhawy and Mayne (1990)					
50		Youngs Modulus Sand Type:			Recent					
51		N160lc Method:			Based on qc1n					
52										

	Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (Ic)	N160 (Ic)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
53		m	ft	m	ft	tsf	tsf	tsf	%					pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa		%	%	deg			tsf	tsf	tsf		MPa		
55	0.050	0.164	-0.050	-0.164	6.327	0.140	4.370	2.213	4	8	5	7	8	114.551	0.009	0.009	0.000	0.000	1.700	4.041	6.870	0.000	0.000	672.504	2.216	6.318	0.022	0.022	657.984	0.593	658.984	2.913	0.000	54.436	28.743	-0.490	0.000	0.000	0.000	0.000	0.000	1.030	10.305	10.305
56	0.100	0.328	-0.100	-0.328	5.953	0.197	2.080	3.309	3	8	5	7	8	111.369	0.019	0.019	0.000	0.000	1.700	5.703	9.695	0.000	0.000	318.047	3.320	5.934	0.011	0.011	314.567	0.564	315.567	3.033	0.000	42.854	28.452	-0.515	0.000	0.000	0.000	0.000	0.000	0.970	9.695	9.695
57	0.150	0.492	-0.150	-0.492	8.606	0.229	-5.380	2.661	4	8	5	7	8	114.551	0.028	0.028	0.000	0.000	1.700	5.497	9.344	0.000	0.000	307.222	2.669	8.578	-0.020	-0.020	313.236	0.841	314.236	2.848	0.000	47.642	30.213	-0.448	0.000	0.000	0.000	0.000	0.000	1.402	14.016	14.016
58	0.200	0.656	-0.200	-0.656	11.167	0.312	1.200	2.794	4	8	6	7	8	114.551	0.037	0.037	0.000	0.000	1.700	7.132	12.125	0.000	0.000	298.258	2.803	11.130	0.003	0.003	297.254	1.066	298.254	2.769	0.000	50.952	31.457	-0.455	0.000	0.000	0.000	0.000	0.000	1.819	18.187	18.187
59	0.250	0.820	-0.250	-0.820	11.566	0.310	-5.380	2.680	5	8	6	7	8	114.551	0.047	0.047	0.000	0.000	1.700	5.540	9.419	0.000	0.000	246.612	2.691	11.520	-0.015	-0.015	250.207	1.124	251.207	2.746	0.000	48.740	31.625	-0.423	0.000	0.000	0.000	0.000	0.000	1.884	18.837	18.837
60	0.300	0.984	-0.300	-0.984	30.868	0.467	-6.680	1.513	6	6	7	7	8	114.551	0.056	0.056	0.000	0.000	1.700	11.829	20.109	6.828	11.607	549.174	1.516	30.812	-0.007	-0.007	552.890	2.977	553.890	2.256	20.928	74.251	36.315	-0.403	2.933	90.577	0.000	0.000	0.000	5.027	50.272	50.272
61	0.350	1.148	-0.350	-1.148	47.133	0.824	2.040	1.748	7	8	8	7	8	117.733	0.066	0.066	0.000	0.000	1.700	15.051	25.587	0.000	0.000	717.142	1.751	47.067	0.001	0.001	716.172	4.509	717.172	2.157	0.000	84.135	38.337	-0.452	2.381	112.282	0.000	0.000	0.000	7.676	76.760	76.760
62	0.400	1.312	-0.400	-1.312	56.815	1.023	4.080	1.801	7	8	8	7	8	117.733	0.075	0.075	0.000	0.000	1.700	18.143	30.843	0.000	0.000	753.651	1.803	56.740	0.002	0.002	751.960	5.431	752.960	2.107	0.000	87.523	39.229	-0.463	2.209	125.575	0.000	0.000	0.000	9.253	92.530	92.530
63	0.450	1.476	-0.450	-1.476	47.530	1.222	8.020	2.571	6	8	8	7	8	114.551	0.085	0.085	0.000	0.000	1.700	18.214	30.963	0.000	0.000	559.416	2.576	47.445	0.005	0.005	556.464	4.529	557.464	2.272	0.000	80.701	38.377	-0.507	2.373	112.813	0.000	0.000	0.000	7.741	77.407	77.407
64	0.500	1.640	-0.500	-1.640	58.352	1.390	1.880	2.382	6	8	8	7	8	114.551	0.094	0.094	0.000	0.000	1.700	22.360	38.013	0.000	0.000	618.401	2.386	58.258	0.001	0.001	617.778	5.584	618.778	2.186	0.000	85.075	39.357	-0.500	2.188	127.750	0.000	0.000	0.000	9.503	95.032	95.032
65	0.550	1.804	-0.550	-1.804	92.598	1.102	23.770	1.190	8	6	9	7	8	120.915	0.104	0.104	0.000	0.000	1.700	22.177	37.701	17.330	29.460	890.550	1.191	92.495	0.008	0.008	883.407	8.800	884.407	1.830	8.768	0.000	41.563	-0.415	1.909	176.873	0.000	0.000	0.000	15.081	150.806	150.806
66	0.600	1.968	-0.600	-1.968	127.465	1.143	7.210	0.897	9	0	9	0	0	124.097	0.114	0.114	0.000	0.000	1.700	24.422	41.518	0.000	0.000	1118.006	0.898	127.351	0.002	0.002	1116.030	12.190	1117.030	1.645	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	20.759	207.590	207.590
67	0.650	2.133	-0.650	-2.133	104.027	1.124	-5.350	1.080	8	6	9	7	8	120.915	0.124	0.124	0.000	0.000	1.700	24.914	42.354	19.020	32.333	838.221	1.082	103.903	-0.002	-0.002	839.568	9.982	840.568	1.764	7.378	0.000	42.119	-0.398	1.878	195.445	0.000	0.000	0.000	16.942	169.418	169.418
68	0.700	2.297	-0.700	-2.297	79.814	1.253	-5.730	1.570	7	6	9	7	8	117.733	0.134	0.134	0.000	0.000	1.700	25.487	43.328	15.680	26.657	595.777	1.573	79.680	-0.002	-0.002	597.114	7.663	598.114	1.961	11.918	89.031	40.853	-0.416	1.987	158.666	0.000	0.000	0.000	12.999	129.985	129.985
69	0.750	2.461	-0.750	-2.461	51.072	1.277	-4.460	2.500	6	8	8	7	8	114.551	0.143	0.143	0.000	0.000	1.700	19.571	33.270	0.000	0.000	355.482	2.507	50.929	-0.003	-0.003	356.453	4.906	357.453	2.242	0.000	75.248	38.720	-0.448	2.302	117.599	0.000	0.000	0.000	8.318	83.176	83.176
70	0.800	2.625	-0.800	-2.625	33.285	1.045	8.740	3.140	5	8	7	7	8	114.551	0.153	0.153	0.000	0.000	1.700	15.943	27.104	0.000	0.000	217.028	3.154	33.132	0.008	0.008	215.241	3.163	216.241	2.443	0.000	62.065	36.675	-0.448	2.822	93.955	0.000	0.000	0.000	5.421	54.207	54.207
71	0.850	2.789	-0.850	-2.789	28.732	0.825	27.630	2.871	5	8	7	6	8	114.551	0.162	0.162	0.000	0.000	1.700	13.763	23.397	0.000	0.000	176.299	2.888	28.570	0.030	0.030	170.978	2.670	171.978	2.462	0.000	56.994	35.972	-0.394	3.043	87.456	0.000	0.000	0.000	4.679	46.794	46.794
72	0.900	2.953	-0.900	-2.953	26.824	0.716	24.640	2.669	5	5	7	6	8	114.551	0.172	0.172	0.000	0.000	1.700	12.849	21.843	6.508	11.064	155.452	2.686	26.652	0.029	0.029	150.966	2.496	151.966	2.463	29.066	54.216	35.644	-0.362	3.150	84.523	0.000	0.000	0.000	4.369	43.685	43.685
73	0.950	3.117	-0.950	-3.117	29.194	0.674	8.620	2.309	6	5	7	6	8	114.551	0.181	0.181	0.000	0.000	1.700	11.187	19.018	6.860	11.662	160.430	2.323	29.013	0.009	0.009	158.942	2.771	159.942	2.394	26.157	55.878	36.048	-0.339	3.018	88.143	0.000	0.000	0.000	4.755	47.545	47.545
74	1.000	3.281	-1.000	-3.281	28.970	0.772	3.180	2.665	6	5	7	6	8	114.551	0.190	0.190	0.000	0.000	1.700	11.101	18.872	6.947	11.810	151.280	2.682	28.780	0.003	0.003	150.759	2.766	151.759	2.438	27.991	54.932	36.011	-0.362	3.030	87.811	0.000	0.000	0.000	4.718	47.180	47.180
75	1.050	3.445	-1.050	-3.445	25.611	0.747	6.580	2.917	5	5	7	6	8	114.551	0.200	0.200	0.000	0.000	1.700	12.268	20.855	6.336	10.771	127.290	2.940	25.411	0.008	0.008	126.261	2.434	127.261	2.504	30.879	50.709	35.423	-0.361	3.223	82.572	0.000	0.000	0.000	4.171	41.710	41.710
76	1.100	3.609	-1.100	-3.609	19.464	0.661	3.820	3.396	5	5	6	6	4	114.551	0.209	0.209	0.000	0.000	1.700	9.323	15.849	5.143	8.744	92.115	3.433	19.255	0.006	0.006	91.545	1.853	92.545	2.638	37.244	42.183	34.111	-0.359	3.658	71.226	0.000	0.000	0.000	3.170	31.699	31.699
77	1.150	3.773	-1.150	-3.773	14.502	0.554	5.100	3.820	4	4	6	6	4	114.551	0.219	0.219	0.000	0.000	1.700	9.262	15.745	4.106	6.981	65.393	3.879	14.283	0.011	0.011	64.664	1.374	65.664	2.769	44.232	33.117	32.706	-0.347	0.000	0.000	0.000	0.000	0.000	2.362	23.618	23.618
78	1.200	3.937	-1.200	-3.937	11.269	0.618	14.300	5.484	3	4	5	6	3	111.369	0.228	0.228	0.000	0.000	1.700	10.796	18.353	3.006	13.503	48.494	5.597	11.042	0.040	0.040	46.534	1.037	47.534	2.656	38.180	0.000	31.501	-0.482	0.000	0.000	0.000	0.000	0.000	1.835	18.353	48.494
79	1.250	4.101	-1.250	-4.101	22.456	0.644	7.420	2.868	5	5	7	6	4	114.551	0.237	0.237	0.000	0.000	1.700	10.757	18.286	5.659	9.621	93.772	2.898	22.219	0.010	0.010	92.794	2.129	93.794	2.543	32.632	44.485	34.795	-0.319	3.432	77.097	0.000	0.000	0.000	3.657	36.572	36.572
80	1.300	4.265	-1.300	-4.265	21.067	0.541	28.360	2.568	5	5	6	6	4	114.551	0.246	0.246	0.000	0.000	1.700	10.091	17.155	5.283	8.982	84.518	2.598	20.821	0.042	0.043	80.925	1.933	81.925	2.533	32.169	42.097	34.490	-0.281	3.533	74.465	0.000	0.000	0.000	3.431	34.310	34.310
81	1.350	4.429	-1.350	-4.429	20.561	0.459	4.950	2.232	6	5	7	6	5	114.551	0.256	0.256	0.000	0.000	1.700	7.879	13.394	5.082	8.639	79.397	2.261	20.305	0.008	0.008	78.793	1.955	79.793	2.502	30.788	40.864	34.373	-0.256	3.572	73.467	0.000	0.000	0.000	3.349	33.485	33.485
82	1.400	4.593	-1.400	-4.593	12.826	0.285	12.220	2.222	5	5	6	6	5	114.551	0.265	0.265	0.000	0.000	1.700	6.144	10.444	3.438	5.844	47.376	2.269	12.561	0.030	0.030	45.938	1.192	46.938	2.666	38.658	0.000	32.119	-0.195	0.000	0.000	0.000	0.000	0.000	2.089	20.889	20.889
83	1.450	4.757	-1.450	-4.757	8.694	0.105	21.490	1.208	5	5	5	5	5	114.551	0.275	0.275	0.000	0.000	1.700	4.165	7.080	2.331	3.963	30.669	1.247	8.420	0.077	0.080	28.226	0.769	29.226	2.666	38.688	0.000	30.261	-0.085	0.000	0.000	0.000	0.000	0.000	1.416	14.159	14.159
84	1.500	4.921	-1.500	-4.921	6.330	0.071	36.840	1.122	1	5	4	4	5	111.369	0.284	0.284	0.000	0.000	1.700	3.032	5.155	1.798	3.057	21.305	1.174	6.046	0.182	0.190	17.253	0.496	18.253	2.775	44.553	0.000	28.745	-0.033	0.000	0.000	0.000	0.000	0.000	1.031	10.309	10.309
85	1.550	5.085	-1.550	-5.085	5.247	0.046	44.350	0.877	1	5	3	4	5	111.369	0.293	0.293	0.000	0.000	1.700	2.513	4.273	1.513	2.573	16.912	0.929	4.954	0.264	0.279	12.186	0.370	13.186	2.802	46.136	0.000	27.849	0.017	0.000	0.000	0.000	0.000	0.000	0.855	8.545	8.545
86	1.600	5.249	-1.600	-5.249	4.518	0.041	46.180	0.907	1	4	3	3	4	111.369	0.302	0.302	0.000	0.000	1.700	2.164	3.679	1.183	3.815	13.958	0.972	4.216	0.319	0.342	9.186	0.295	10.186	2.620	36.351	0.000	27.135	0.040	0.000	0.000	0.000	0.000	0.000	0.736	7.358	13.958
87	1.650	5.413	-1.650	-5.413	4.361	0.049	43.340	1.124	1	4	3	3	4	111.369	0.311	0.311	0.000	0.000	1.700	2.089	3.551	1.185	3.691	13.012	1.210	4.049	0.310	0.334	8.665	0.288	9.665	2.692	40.026	0.000	26.965	0.032	0.000	0.000	0.000	0.000	0.000	0.710	7.102	13.012
88	1.700	5.577	-1.700	-5.577	4.681	0.077	46.560	1.645	1	4	3	3	4	111.369	0.320	0.320	0.000	0.000	1.700	2.242	3.811	1.318	4.000	13.612	1.766	4.360	0.310	0.333	9.075	0.309	10.075	2.758	43.639	0.000	27.303	0.003	0.000	0.000	0.000	0.000	0.000	0.762	7.623	13.612
89	1.750	5.741	-1.750	-5.741	6.998	0.121	36.460	1.729	5	4	4	4	4	114.551	0.330	0.330	0.000	0.000	1.700	3.352	5.698	1.833	5.532	20.231	1.815	6.668	0.163	0.171	16.778	0.561	17.778	2.621	36.392	0.000	29.224	-0.063	0.000	0.000	0.000	0.000	0.000	1.140	11.396	20.231
90	1.800	5.905	-1.800	-5.905	7.735	0.149	10.480	1.926	5	4	5	5	4	114.551	0.339	0.339	0.000	0.000	1.700	3.705	6.299	2.026	5.964	21.819	2.014	7.396	0.042	0.044	20.854	0.710	21.854	2.620	36.347	0.000	29.703	-0.095	0.000	0.000	0.000	0.000	0.000	1.260	12.598	21.819
91	1.850	6.069	-1.850	-6.069	6.367	0.143	9.070	2.246	4	4	4	5	4	114.551	0.349	0.349	0.000	0.000	1.700	4.066	6.912	1.779	5.038	17.275	2.376	6.018	0.044	0.047	16.462	0.583	17.462	2.744	42.853	0.000	28.773	-0.084	0.000	0.000	0.000	0.000	0.000	1.037	10.369	17.275
92	1.900	6.234	-1.900	-6.234	3.822	0.097	8.320	2.538	3	3	3	4	3	111.369	0.358	0.358	0.000	0.000	1.700	3.661	6.224	1.232	3.259	9.686	2.800	3.464	0.068	0.075	8.960	0.341	9.960	2.991	57.911	0.000	0.000	0.000	0.000	0.000	0.231	0.032	2.427	0.622	6.224	9.686
93	1.950	6.398	-1.950	-6.398	3.424	0.050	18.320	1.460	1	4	3	3	4	111.369	0.367	0.367	0.000	0.000	1.687	1.640	2.767	1.060	2.693	8.336	1.635	3.058	0.167	0.187	6.777	0.273	7.777	2.925	53.541	0.000	25.774	0.038	0.000	0.000	0.000	0.000	0.000	0.553	5.534	8.336
94	2.000	6.562	-2.000	-6.562	3.606	0.045	23.320	1.248	1	4	3	3	4	111.369	0.376	0.376	0.000	0.000	1.666	1.727	2.878	1.086	2.702	8.592	1.393	3.230	0.202	0.225	6.655	0.276	7.655	2.880	50.728	0.000	25.961	0.049	0.000	0.000	0.000	0.000	0.000	0.576	5.756	8.592
95	2.050	6.726	-2.050	-6.726	3.867	0.070	29.990	1.810	1	3	3	3	3	111.369	0.385	0.385	0.000	0.000	1.646	1.852	3.050	1.207	2.947	9.043	2.010	3.482	0.242	0.269	6.612	0.281	7.612	2.939	54.480	0.000	0.000	0.000	0.000	0.000	0.232	0.117	2.213	0.610	6.100	9.043
96	2.100	6.890	-2.100	-6.890	4.968	0.147	28.500	2.959	3	3	3	3	4	111.369	0.394	0.394	0.000	0.000	1.627	4.759	7.745	1.572	3.832	11.603	3.214	4.574	0.179	0.194	9.346	0.391	10.346	2.961	55.909	0.000	0.000	0.000	0.000	0.000	0.305	0.111	3.123	0.774	7.745	11.603
97	2.150	7.054	-2.150	-7.054	8.722	0.246	13.150	2.820	4	4	5	5	4	114.551	0.404	0.404	0.000	0.000	1.609	5.571	8.960	2.431	5.998	20.619	2.957	8.319	0.047	0.049	19.602	0.796	20.602	2.740	42.602	0.000	30.013	-0.128	0.000	0.000	0.000	0.000	0.000	1.344	13.440	20.619
98	2.200	7.218	-2.200	-7.218	14.564	0.454	0.670	3.117	5	4	6	6	4	114.551	0.413	0.413	0.000	0.000	1.590	6.976	11.093	4.005	6.808	34.278	3.208	14.151	0.001	0.001	34.227	1.393	35.227	2.715	41.230	0.000	32.407	-0.212	0.000	0.000	0.000	0.000	0.000	2.219	22.186	23.719
99	2.250	7.382	-2.250	-7.382	22.122	0.801	-9.220	3.621	5	4	7	6	4	114.551	0.422	0.422	0.000	0.000	1.572	10.597	16.661	5.787	9.838	51.394	3.691	21.700	-0.013	-0.013	52.075	2.147	53.075	2.618	36.252	35.776	34.350	-0.301	3.579	79.217	0.000	0.000	0.000	3.332	33.323	36.029
100	2.300	7.546	-2.300	-7.546	32.387	1.080	-16.520	3.335	5	5	7	6	4	114.551	0.432	0.432	0.000	0.000	1.555	15.513	24.125	7.996	12.434	74.034	3.380	31.955	-0.016	-0.016	75.229	3.152	76.229	2.500	30.685	46.386	36.118	-0.328	2.995	97.053	0.000	0.000	0.000	4.825	48.250	48.250
101	2.350	7.710	-2.350	-7.710	32.490	1.218	-20.900	3.749	5	4	7	6	4	114.551	0.441	0.441	0.000	0.000	1.538	15.562	23.942	8.170	12.569	72.669	3.800	32.049	-0.020	-0.020	74.148	3.175	75.148	2.538	32.423	46.168	36.082	-0.361	3.007	97.739	0.000	0.000	0.000	4.788	47.885	47.885
102	2.400	7.874	-2.400	-7.874	27.878	1.204	-22.670	4.319	4	4	7	6	4	114.551	0.451	0.451	0.000	0.000	1.522	17.805	27.105	7.224	12.280	60.895	4.390	27.428	-0.025	-0.026	62.466	2.739	63.466	2.599	35.313	41.479	35.301	-0.389	3.263	91.012	0.000	0.000	0.000	4.066	40.658	45.403
103	2.450	8.038	-2.450	-8.038	28.842	1.220	-22.070	4.230	4	4	7	6	4	114.551	0.460	0.460	0.000	0.000	1.507	18.421	27.754	7.411	12.599	61.726	4.298	28.382	-0.024	-0.024	63.224	2.829	64.224	2.582	34.498	42.157	35.414	-0.382	3.226	93.075	0.000	0.000	0.000	4.163	41.631	46.972
104	2.500	8.202	-2.500	-8.202	27.227	1.260	-21.320	4.628	4	4	7	6	3	114.551	0.469	0.469	0.000	0.000	1.492	17.389	25.936	7.159	12.170	57.028	4.709	26.758	-0.024	-0.025	58.446	2.672	59.446	2.628	36.748	40.215	35.090	-0.411	3.333	90.794	0.000	0.000	0.000	3.890	38.904	44.342
105	2.550	8.366	-2.550	-8.366	24.712	1.251	-20.500	5.062	3	4	7	6	3	111.369	0.479	0.479	0.000	0.000	1.477	23.674	34.967	6.463	13.827	50.648	5.162	24.234	-0.026	-0.026	51.985	2.429	52.985	2.618	36.231	37.157	34.580	-0.443	3.503	86.605	0.000	0.000	0.000	3.497	34.967	50.648
106	2.600	8.530	-2.600	-8.530	21.446	1.197	-18.290	5.582	3	3	7	6	3	111.369	0.488	0.488	0.000	0.000	1.463	20.545	30.060	5.847	12.232	42.982	5.711	20.958	-0.027	-0.027	44.153	2.109	45.153	2.698	40.366	0.000	0.000	0.000	0.000	1.398	0.000	10.000	3.006	30.060	42.982
107	2.650	8.694	-2.650	-8.694	22.638	1.234	-13.190	5.451	3	4	7	6	3	111.369	0.497	0.497	0.000	0.000	1.450	21.687	31.438	6.112	12.562	44.573	5.573	22.141	-0.018	-0.019	45.401	2.208	46.401	2.680	39.390	34.107	34.072	-0.473	3.671	83.133	0.000	0.000	0.000	3.144	31.438	44.573

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
108	2.700	8.858	-2.700	-8.858	27.805	1.505	-13.690	5.413	3	4	7	6	8	111.369	0.506	0.506	0.000	0.000	1.436	26.637	38.263	7.282	14.754	53.964	5.513	27.299	-0.015	-0.016	54.808	2.705	55.808	2.621	36.370	39.739	35.011	-0.505	3.360	93.457	0.000	0.000	0.000	0.000	3.826	38.263	53.964
109	2.750	9.022	-2.750	-9.022	27.736	1.783	-13.470	6.428	3	3	7	6	8	111.369	0.515	0.515	0.001	0.023	1.425	26.571	37.855	7.499	14.938	52.929	6.550	27.221	-0.015	-0.015	53.748	2.697	54.748	2.683	39.531	0.000	0.000	0.000	0.000	0.000	1.815	0.000	10.000	3.785	37.855	52.929
110	2.800	9.186	-2.800	-9.186	27.434	1.866	-13.700	6.802	3	3	7	6	8	111.369	0.524	0.519	0.006	0.187	1.419	26.282	37.298	7.513	14.841	51.920	6.934	26.910	-0.016	-0.016	52.757	2.669	53.757	2.707	40.814	0.000	0.000	0.000	0.000	0.000	1.795	0.000	10.000	3.730	37.298	51.920
111	2.850	9.350	-2.850	-9.350	28.115	1.834	-13.630	6.523	3	3	7	6	8	111.369	0.533	0.523	0.011	0.351	1.414	26.934	38.076	7.624	14.947	52.806	6.649	27.582	-0.016	-0.016	53.642	2.734	54.642	2.688	39.826	0.000	0.000	0.000	0.000	0.000	1.840	0.000	10.000	3.808	38.076	52.806
112	2.900	9.514	-2.900	-9.514	27.437	1.583	-13.320	5.770	3	3	7	6	8	111.369	0.543	0.527	0.016	0.515	1.408	26.284	37.016	7.323	14.236	51.098	5.886	26.894	-0.016	-0.016	51.919	2.668	52.919	2.658	38.238	0.000	0.000	0.000	0.000	0.000	1.794	0.000	10.000	3.702	37.016	51.098
113	2.950	9.678	-2.950	-9.678	25.820	1.110	-9.640	4.299	4	4	7	6	3	114.551	0.552	0.531	0.021	0.680	1.403	16.490	23.132	6.830	10.970	47.633	4.393	25.268	-0.012	-0.013	48.240	2.502	49.240	2.640	37.349	36.935	34.543	-0.346	3.515	90.804	0.000	0.000	0.000	0.000	3.470	34.698	39.728
114	3.000	9.842	-3.000	-9.842	31.112	1.489	-4.540	4.786	3	4	7	6	3	111.369	0.561	0.535	0.026	0.844	1.397	29.805	41.647	8.137	12.998	57.145	4.874	30.551	-0.005	-0.005	57.459	2.994	58.459	2.618	36.228	42.168	35.415	-0.427	3.225	100.380	0.000	0.000	0.000	0.000	4.165	41.647	47.611
115	3.050	10.006	-3.050	-10.006	33.985	1.919	-5.530	5.647	3	4	7	6	8	111.369	0.570	0.539	0.031	1.008	1.392	32.558	45.324	9.017	14.329	62.038	5.743	33.415	-0.006	-0.006	62.417	3.272	63.417	2.646	37.647	44.593	35.820	-0.575	3.092	105.129	0.000	0.000	0.000	0.000	4.532	45.324	51.737
116	3.100	10.170	-3.100	-10.170	31.767	2.058	-8.500	6.478	3	3	7	6	8	111.369	0.579	0.543	0.037	1.172	1.387	30.433	42.209	8.497	16.048	57.474	6.599	31.188	-0.010	-0.010	58.030	3.069	59.030	2.662	38.457	0.000	0.000	0.000	0.000	0.000	2.080	0.000	10.000	4.221	42.209	57.474
117	3.150	10.335	-3.150	-10.335	32.997	2.034	-0.480	6.164	3	3	7	6	8	111.369	0.589	0.547	0.042	1.336	1.382	31.611	43.682	8.713	16.340	59.285	6.276	32.409	-0.002	-0.002	59.389	3.163	60.389	2.636	37.167	0.000	0.000	0.000	0.000	0.000	2.161	0.000	10.000	4.368	43.682	59.285
118	3.200	10.499	-3.200	-10.499	34.251	1.923	8.220	5.614	3	4	7	6	8	111.369	0.598	0.551	0.047	1.500	1.377	32.813	45.177	9.090	14.223	61.114	5.714	33.654	0.006	0.006	60.733	3.257	61.733	2.647	37.677	44.500	35.804	-0.563	3.097	106.126	0.000	0.000	0.000	0.000	4.518	45.177	51.341
119	3.250	10.663	-3.250	-10.663	32.061	1.785	13.010	5.567	3	4	7	6	8	111.369	0.607	0.555	0.052	1.664	1.372	30.715	42.135	8.377	15.466	56.707	5.675	31.455	0.011	0.011	56.069	3.033	57.069	2.616	36.134	42.502	35.471	-0.538	3.207	102.853	0.000	0.000	0.000	0.000	4.213	42.135	56.707
120	3.300	10.827	-3.300	-10.827	32.352	1.855	50.020	5.734	3	4	7	6	8	111.369	0.616	0.559	0.057	1.829	1.367	30.993	42.364	8.493	15.565	56.804	5.845	31.737	0.046	0.047	54.112	2.950	55.112	2.625	36.591	42.657	35.497	-0.561	3.198	103.509	0.000	0.000	0.000	0.000	4.236	42.364	56.804
121	3.350	10.991	-3.350	-10.991	33.952	1.822	35.540	5.366	3	4	7	6	8	111.369	0.625	0.563	0.062	1.993	1.362	32.526	44.300	8.977	13.835	59.226	5.467	33.327	0.031	0.031	57.365	3.146	58.365	2.639	37.304	43.938	35.710	-0.508	3.128	106.239	0.000	0.000	0.000	0.000	4.430	44.300	50.127
122	3.400	11.155	-3.400	-11.155	41.524	1.859	99.990	4.477	4	4	7	6	3	114.551	0.634	0.567	0.067	2.157	1.357	26.520	35.988	10.545	14.309	72.135	4.546	40.890	0.074	0.075	66.748	3.679	67.748	2.558	33.362	49.604	36.655	-0.416	2.828	117.465	0.000	0.000	0.000	0.000	5.398	53.982	53.982
123	3.450	11.319	-3.450	-11.319	46.297	1.929	21.940	4.167	5	4	8	6	8	114.551	0.644	0.571	0.072	2.321	1.352	22.176	29.980	11.452	15.482	79.935	4.225	45.653	0.013	0.013	78.863	4.370	79.863	2.504	30.866	52.615	37.157	-0.410	2.680	124.120	0.000	0.000	0.000	0.000	5.996	59.961	59.961
124	3.500	11.483	-3.500	-11.483	44.808	1.822	148.590	4.066	5	4	8	6	4	114.551	0.653	0.576	0.078	2.485	1.347	21.463	28.908	11.101	14.951	76.737	4.126	44.155	0.102	0.103	68.811	3.848	69.811	2.507	31.009	51.571	36.983	-0.379	2.730	122.372	0.000	0.000	0.000	0.000	5.782	57.816	57.816
125	3.550	11.647	-3.550	-11.647	68.645	2.205	31.210	3.212	6	5	8	6	8	114.551	0.663	0.580	0.083	2.649	1.342	26.305	35.299	15.517	20.823	117.276	3.243	67.983	0.013	0.013	115.738	6.483	116.738	2.306	22.763	63.691	39.003	-0.375	2.249	154.416	0.000	0.000	0.000	0.000	8.825	88.246	88.246
126	3.600	11.811	-3.600	-11.811	60.968	2.432	-14.810	3.989	5	9	8	6	8	114.551	0.672	0.584	0.088	2.813	1.337	29.203	39.045	0.000	0.000	103.254	4.033	60.296	-0.009	-0.009	104.196	5.885	105.196	2.413	0.000	60.186	38.419	-0.434	2.364	144.157	0.000	0.000	0.000	0.000	7.809	78.089	78.089
127	3.650	11.975	-3.650	-11.975	46.185	2.503	37.710	5.419	3	9	7	6	8	111.369	0.681	0.588	0.093	2.977	1.332	44.246	58.947	0.000	0.000	77.376	5.501	45.504	0.023	0.024	75.532	4.312	76.532	2.595	0.000	52.126	37.075	-0.573	2.703	124.896	0.000	0.000	0.000	0.000	5.895	58.947	58.947
128	3.700	12.139	-3.700	-12.139	48.811	2.605	193.950	5.337	3	9	6	6	8	111.369	0.690	0.592	0.098	3.142	1.328	46.761	62.086	0.000	0.000	81.270	5.413	48.121	0.122	0.124	71.211	4.096	72.211	2.575	0.000	53.613	37.323	-0.545	2.633	128.584	0.000	0.000	0.000	0.000	6.209	62.086	62.086
129	3.750	12.303	-3.750	-12.303	55.630	2.631	44.890	4.729	4	9	8	6	8	114.551	0.700	0.597	0.103	3.306	1.323	35.529	47.010	0.000	0.000	92.126	4.790	54.931	0.023	0.024	89.949	5.195	90.949	2.498	0.000	57.262	37.931	-0.498	2.475	137.746	0.000	0.000	0.000	0.000	7.051	70.514	70.514
130	3.800	12.467	-3.800	-12.467	60.013	2.608	24.430	4.346	5	9	8	6	8	114.551	0.709	0.601	0.108	3.470	1.318	28.746	37.899	0.000	0.000	98.752	4.398	59.304	0.011	0.011	97.663	5.676	98.663	2.450	0.000	59.333	38.276	-0.463	2.395	143.765	0.000	0.000	0.000	0.000	7.580	75.798	75.798
131	3.850	12.631	-3.850	-12.631	81.498	2.543	-6.660	3.120	6	8	9	6	8	114.551	0.718	0.605	0.113	3.634	1.314	31.230	41.028	0.000	0.000	133.564	3.148	80.780	-0.004	-0.004	134.095	7.827	135.095	2.254	0.000	68.003	39.721	-0.386	2.133	173.896	0.000	0.000	0.000	0.000	10.257	102.571	102.571
132	3.900	12.795	-3.900	-12.795	99.128	2.460	-17.950	2.482	7	5	9	6	8	117.733	0.728	0.609	0.119	3.798	1.309	31.655	41.436	20.753	27.165	161.521	2.500	98.400	-0.007	-0.007	162.635	9.550	163.635	2.124	16.532	73.512	40.639	-0.356	2.013	199.599	0.000	0.000	0.000	0.000	12.431	124.307	124.307
133	3.950	12.959	-3.950	-12.959	102.064	1.575	-20.180	1.543	8	6	9	6	5	120.915	0.738	0.614	0.124	3.962	1.304	24.444	31.875	20.068	26.169	165.060	1.554	101.327	-0.007	-0.007	166.288	9.838	167.288	1.963	11.975	74.239	40.761	-0.284	1.998	204.019	0.000	0.000	0.000	0.000	12.750	127.501	127.501
134	4.000	13.123	-4.000	-13.123	88.110	1.817	-20.840	2.062	7	5	9	6	5	117.733	0.748	0.619	0.129	4.126	1.299	28.136	36.551	18.273	23.738	141.240	2.080	87.363	-0.009	-0.009	142.499	8.503	143.499	2.100	15.812	69.917	40.040	-0.309	2.089	184.103	0.000	0.000	0.000	0.000	10.965	109.654	109.654
135	4.050	13.287	-4.050	-13.287	75.343	2.040	-10.660	2.708	6	5	8	6	4	114.551	0.757	0.623	0.134	4.291	1.294	28.872	37.373	16.515	21.378	119.732	2.735	74.587	-0.006	-0.006	120.481	7.250	121.481	2.235	20.179	65.329	39.276	-0.339	2.202	165.944	0.000	0.000	0.000	0.000	9.343	93.434	93.434
136	4.100	13.451	-4.100	-13.451	68.291	2.167	-17.390	3.173	6	5	8	6	8	114.551	0.766	0.627	0.139	4.455	1.290	26.169	33.760	15.501	19.997	107.658	3.209	67.525	-0.010	-0.010	108.745	6.594	109.745	2.316	23.114	62.414	38.790	-0.364	2.288	156.324	0.000	0.000	0.000	0.000	8.440	84.399	84.399
137	4.150	13.615	-4.150	-13.615	64.740	2.183	-19.300	3.372	6	5	8	6	8	114.551	0.776	0.632	0.144	4.619	1.286	24.808	31.895	14.932	19.198	101.290	3.413	63.964	-0.012	-0.012	102.472	6.260	103.472	2.352	24.507	60.785	38.518	-0.373	2.342	151.710	0.000	0.000	0.000	0.000	7.974	79.738	79.738
138	4.200	13.779	-4.200	-13.779	53.334	2.088	-20.130	3.915	5	5	4	8	6	114.551	0.785	0.636	0.149	4.783	1.281	25.547	32.735	12.913	16.546	82.655	3.973	52.549	-0.015	-0.015	83.878	5.170	84.878	2.459	28.869	55.134	37.576	-0.395	2.565	136.854	0.000	0.000	0.000	0.000	6.547	65.470	65.470
139	4.250	13.943	-4.250	-13.943	44.325	2.008	-20.000	4.530	4	4	8	6	8	114.551	0.795	0.640	0.154	4.947	1.277	28.309	36.152	11.274	14.398	68.012	4.613	43.531	-0.018	-0.018	69.229	4.306	70.229	2.562	33.518	49.734	36.677	-0.430	2.821	125.095	0.000	0.000	0.000	0.000	5.423	54.229	54.229
140	4.300	14.107	-4.300	-14.107	35.920	1.697	-19.290	4.724	4	4	7	6	3	114.551	0.804	0.645	0.160	5.111	1.273	22.941	29.199	9.363	13.125	54.501	4.833	35.116	-0.021	-0.022	55.683	3.499	56.683	2.611	35.903	43.612	35.656	-0.416	3.146	113.037	0.000	0.000	0.000	0.000	4.380	43.799	48.236
141	4.350	14.271	-4.350	-14.271	26.772	1.470	-14.070	5.491	3	3	7	6	3	111.369	0.813	0.649	0.165	5.275	1.269	25.648	32.540	7.370	11.504	40.032	5.663	25.959	-0.023	-0.023	40.963	2.607	41.963	2.717	41.351	0.000	0.000	0.000	0.000	1.731	0.000	10.000	3.254	32.540	40.032
142	4.400	14.436	-4.400	-14.436	26.542	1.612	6.800	6.073	3	3	7	6	3	111.369	0.822	0.653	0.170	5.440	1.265	25.428	32.162	7.452	11.553	39.419	6.267	25.720	0.002	0.002	39.354	2.522	40.354	2.753	43.360	0.000	0.000	0.000	0.000	1.715	0.005	10.000	3.216	32.162	39.419
143	4.450	14.600	-4.450	-14.600	26.924	1.601	15.120	5.946	3	3	7	6	3	111.369	0.832	0.657	0.175	5.604	1.261	25.794	32.525	7.522	11.591	39.746	6.136	26.093	0.011	0.011	39.294	2.534	40.294	2.744	42.851	0.000	0.000	0.000	0.000	1.740	0.037	10.000	3.252	32.525	39.746
144	4.500	14.764	-4.500	-14.764	27.252	1.556	6.770	5.710	3	3	7	6	3	111.369	0.841	0.661	0.180	5.768	1.257	26.108	32.821	7.554	11.570	39.987	5.891	26.412	0.001	0.001	39.940	2.591	40.940	2.730	42.046	0.000	0.000	0.000	0.000	1.762	0.004	10.000	3.282	32.821	39.987
145	4.550	14.928	-4.550	-14.928	38.129	1.504	11.090	3.944	5	4	8	6	4	114.551	0.850	0.665	0.185	5.932	1.253	18.264	22.888	9.740	12.206	56.089	4.034	37.280	0.004	0.004	55.847	3.620	56.847	2.570	33.933	44.878	35.867	-0.338	3.077	117.357	0.000	0.000	0.000	0.000	4.578	45.777	45.777
146	4.600	15.092	-4.600	-15.092	47.348	1.589	-14.770	3.356	5	4	8	6	4	114.551	0.859	0.669	0.190	6.096	1.249	22.680	28.331	11.439	14.290	69.498	3.418	46.489	-0.014	-0.014	70.471	4.580	71.471	2.454	28.675	50.993	36.886	-0.322	2.758	130.649	0.000	0.000	0.000	0.000	5.666	56.662	56.662
147	4.650	15.256	-4.650	-15.256	35.621	1.863	-15.180	5.229	3	4	7	6	3	111.369	0.869	0.673	0.195	6.260	1.245	34.129	42.502	9.348	14.144	51.644	5.360	34.757	-0.019	-0.019	52.634	3.458	53.634	2.624	36.551	42.751	35.513	-0.473	3.193	113.798	0.000	0.000	0.000	0.000	4.250	42.502	51.644
148	4.700	15.420	-4.700	-15.420	34.434	2.048	-2.610	5.948	3	3	7	6	8	111.369	0.878	0.677	0.200	6.424	1.242	32.987	40.959	9.289	13.956	49.560	5.103	33.556	-0.008	-0.008	49.976	3.307	50.976	2.678	39.303	0.000	0.000	0.000	0.000	0.000	2.238	0.000	10.000	4.096	40.959	49.560
149	4.750	15.584	-4.750	-15.584	49.679	1.758	30.200	3.539	5	4	8	6	4	114.551	0.887	0.682	0.206	6.589	1.238	23.796	29.456	12.029	14.890	71.624	3.603	48.792	0.015	0.015	70.542	4.669	71.542	2.459	28.877	52.109	37.072	-0.337	2.704	134.383	0.000	0.000	0.000	0.000	5.891	58.912	58.912
150	4.800	15.748	-4.800	-15.748	81.156	1.566	-11.790	1.930	7	5	9	6	5	117.733	0.897	0.686	0.211	6.753	1.234	25.916	31.977	16.967	20.935	117.060	1.951	80.260	-0.007	-0.007	117.904	7.810	118.904	2.120	16.426	66.085	39.402	-0.279	2.181	177.093	0.000	0.000	0.000	0.000	9.593	95.931	95.931
151	4.850	15.912	-4.850	-15.912	92.307	1.425	-14.960	1.544	7	6	9	6	5	117.733	0.906	0.690	0.216	6.917	1.230	29.477	36.251	18.497	22.748	132.433	1.559	91.401	-0.007	-0.007	133.422	8.888	134.422	2.013	13.297	69.680	40.001	-0.262	2.094	193.360	0.000	0.000	0.000	0.000	10.875	108.752	108.752
152	4.900	16.076	-4.900	-16.076	92.784	1.254	-17.000	1.352	8	6	9	6	5	120.915	0.916	0.695	0.221	7.081	1.226	22.222	27.237	18.305	22.436	132.217	1.365	91.868	-0.008	-0.008	133.298	8.940	134.298	1.972	12.206	69.732	40.009	-0.247	2.093	194.253	0.000	0.000	0.000	0.000	10.895	108.947	108.947
153	4.950	16.240	-4.950	-16.240	87.150	1.178	-17.670	1.352	8	6	9	6	5	120.915	0.926	0.700	0.226	7.245	1.221	20.872	25.495	17.333	21.172	123.243	1.366	86.224	-0.009	-0.009	124.354	8.402	125.354	1.993	12.769	67.837	39.694	-0.240	2.137	186.303	0.000	0.000	0.000	0.000	10.198	101.980	101.980
154	5.000	16.404	-5.000	-16.404	74.075	1.560	-18.410	2.106	7	5	8	6	5	117.733	0.936	0.705	0.231	7.409	1.217	23.655	28.798	15.867	19.317	103.848	2.133	73.140	-0.011	-0.011	104.992	7.151	105.992	2.180	18.320	63.083	38.901	-0.279	2.267	168.003	0.000	0.000	0.000	0.000	8.639	86.393	86.393
155	5.050	16.568	-5.050	-16.568	64.951	2.117	-1.430	3.259	6	5	8	6	4	114.551	0.945	0.709	0.236	7.573	1.214	24.889	30.206	15.020	18.228	90.315	3.307	64.006	-0.004	-0.004	90.711	6.227	91.711	2.358	24.732	59.226	38.258	-0.348	2.399	155.855	0.000	0.000	0.000	0.000	7.552	75.516	75.516
156	5.100	16.732	-5.100	-16.732	56.025	2.257	-15.170	4.029	5	4	8	6	4	114.551	0.955	0.713	0.241	7.737	1.210	26.836	32.471	13.643	16.508	77.241	4.098	55.071	-0.013	-0.013	78.244	5.413	79.244	2.471	29.402	54.902	37.538	-0.396	2.575	144.330	0.000	0.000	0.000	0.000	6.494	64.943	64.943
157	5.150	16.896	-5.150	-16.896	44.853	2.346	-15.460	5.230	3	4	8	6	8	111.369	0.964	0.717	0.247	7.902	1.206	42.970	51.842	11.630	15.125	61.203	5.345	43.890	-0.016	-0.017	62.220	4.343	63.220	2.600	35.379	48.445	36.462	-0.506	2.887	129.551	0.000	0.000	0.000	0.000	5.184	51.842	55.885
158	5.200	17.060	-5.200	-17.060	38.687	2.442	-2.090	6.312	3	3	8	6	8	111.369	0.973	0.721	0.252	8.066	1.203	37.062	44.590	10.458	14.757	52.299	6.475	37.714	-0.008	-0.008	52.738	3.712	53.738	2.682	39.510	0.000	0.000	0.000	0.000	0.000	2.515	0.000	10.000	4.459	44.590	52.299
159	5.250	17.224	-5.250	-17.224	37.576	2.522	-3.860	6.712	3	3	8	6	8	111.369	0.982	0.725	0.257	8.230	1.200	35.998	43.190	10.323	14.471	50.464	6.892	36.594	-0.010	-0.010	50.985	3.611	51.985	2.713	41.136	0.000	0.000	0.000	0.000	0.000	2.441	0.000	10.000	4.319	43.190	50.464
160	5.300	17.388	-5.300	-17.388	36.370	2.545	-6.330	6.997	3	3	8	6	8	111.369	0.991	0.729	0.262	8.394	1.196	34.843	41.689	10.127	14.102	48.521	7.193	35.379	-0.013	-0.013	49.151	3.503	50.151	2.738	42.505	0.000	0.000	0.000	0.000	0.000	2.360	0.000	10.000	4.169	41.689	48.521
161	5.350	17.552	-5.350	-17.552	34.873	2.120	-7.480	6.079	3	3	7	6	8	111.369	1.001	0.733	0.267	8.558	1.193	33.409	39.863	9.549	13.205	46.201	6.259	33.873	-0.014	-0.015	46.883	3.363	47.883	2.707	40.804	0.000	0.000	0.000	0.000	0.000	2.259	0.000	10.000	3.986	39.863	46.201
162	5.400	17.716	-5.400	-17.716	37.900	2.095	-6.340	5.528	3	4	8	6	8	111.369	1.010	0.737	0.272	8.722	1.190	36.309	43.205	10.087	13.902	50.043	5.679	36.891	-0.012	-0.013	50.681	3.650	51.681	2.652	37.952	43.221	35.591	-0.515	3.167	120.084	0.000	0.000	0.000	0.000	4.321	43.205	50.043
163	5.450	17.880	-5.450	-17.880	30.675	1.904	-10.390	6.207	3	3	7	6	8	111.369	1.019	0.742	0.277	8.886	1.187	29.387	34.874	8.628	11.747	40.012	6.420	29.657	-0.020	-0.020	40.823	2.970	41.823	2.757	43.542	0.000	0.000	0.000	0.000	0.000	1.978	0.000	10.000	3.487	34.874	40.012
164	5.500	18.044	-5.500	-18.044	31.489	1.794	-8.130	5.697	3	3	7	6	3	111.369	1.028	0.746	0.282	9.051	1.184	30.167	35.703	8.697	11.785	40.877	5.889	30.462	-0.017	-0.018	41.596	3.041	42.596	2.723	41.686	0.000	0.000	0.000	0.000	0.000	2.032	0.000	10.000	3.570	35.703	40.877
165	5.550	18.208	-5.550	-18.208	40.379	1.575	-3.310	3.901	5	4	8	6	4	114.551	1.037	0.750	0.288	9.215	1.180	19.342	22.828	10.307	12.165	52.502	4.003	39.343	-0.010	-0.010	53.023	3.878	54.023	2.569	33.858	44.802	35.854	-0.328	3.081	124.449	0.000	0.000	0.000	0.000	4.566	45.656	45.656
166	5.600	18.372	-5.600	-18.372	49.478	1.690	-9.960	3.416	5	4	8	6	4	114.551	1.047	0.754	0.293	9.379	1.177	23.700	27.892	12.017	14.142	64.264	3.489	48.432	-0.012	-0.012	65.065	4.770	66.065	2.465	29.156	50.545	36.812	-0.317	2.780	137.623	0.000	0.000	0.000	0.000	5.578	55.785	55.785
167	5.650	18.537	-5.650	-18.537	39.316	1.906	-8.650	4.848	4	4	8	6	3	114.551	1.056	0.758	0.298	9.543	1.174	25.110	29.468	10.229	13.710	50.482	4.982	38.260	-0.014	-0.015	51.231	3.792	52.231	2.607	35.716	43.875	35.700	-0.418	3.131	123.160	0.000

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
215	8.050	26.410	-8.050	-26.410	137.534	2.339	-7.330	1.701	8	6	9	6	5	120.915	1.513	0.969	0.544	17.422	1.038	32.939	34.191	27.156	28.188	140.399	1.720	136.022	-0.006	-0.006	141.196	13.198	142.196	1.974	12.264	76.249	41.096	-0.280	1.987	273.328	0.000	0.000	0.000	0.000	13.676	136.764	136.764
216	8.100	26.574	-8.100	-26.574	137.371	2.444	-19.050	1.779	8	6	9	6	5	120.915	1.523	0.974	0.549	17.586	1.035	32.900	34.066	27.286	28.253	139.530	1.799	135.849	-0.008	-0.008	140.704	13.217	141.704	1.990	12.677	76.145	41.078	-0.286	1.989	273.394	0.000	0.000	0.000	0.000	13.626	136.265	136.265
217	8.150	26.739	-8.150	-26.739	135.574	2.612	-20.250	1.927	7	5	9	6	5	117.733	1.533	0.979	0.554	17.750	1.033	43.293	44.720	27.246	28.144	137.017	1.949	134.042	-0.009	-0.009	138.229	13.049	139.229	2.020	13.502	75.699	41.004	-0.295	1.999	271.147	0.000	0.000	0.000	0.000	13.416	134.161	134.161
218	8.200	26.903	-8.200	-26.903	131.073	2.495	-20.320	1.904	7	5	9	6	5	117.733	1.542	0.983	0.559	17.914	1.031	41.856	43.136	26.410	27.217	131.796	1.926	129.532	-0.009	-0.009	133.009	12.618	134.009	2.027	13.688	74.665	40.832	-0.290	2.021	265.047	0.000	0.000	0.000	0.000	12.941	129.407	129.407
219	8.250	27.067	-8.250	-27.067	134.774	2.596	-20.140	1.926	7	5	9	6	5	117.733	1.552	0.988	0.564	18.078	1.028	43.038	44.252	27.117	27.882	134.929	1.949	133.223	-0.009	-0.009	136.137	12.972	137.137	2.023	13.586	75.397	40.954	-0.294	2.007	270.575	0.000	0.000	0.000	0.000	13.276	132.756	132.756
220	8.300	27.231	-8.300	-27.231	141.235	2.584	-20.070	1.830	8	6	9	6	5	120.915	1.562	0.992	0.569	18.242	1.026	33.826	34.698	28.093	28.817	140.797	1.850	139.674	-0.008	-0.009	142.002	13.590	143.002	1.994	12.776	76.671	41.166	-0.291	1.981	279.964	0.000	0.000	0.000	0.000	13.879	138.792	138.792
221	8.350	27.395	-8.350	-27.395	139.713	2.561	-20.340	1.833	8	6	9	6	5	120.915	1.572	0.997	0.574	18.406	1.023	33.461	34.241	27.839	28.488	138.583	1.854	138.142	-0.009	-0.009	139.796	13.445	140.796	1.998	12.897	76.292	41.103	-0.290	1.990	278.121	0.000	0.000	0.000	0.000	13.697	136.966	136.966
222	8.400	27.559	-8.400	-27.559	135.064	2.586	-20.250	1.915	7	5	9	6	5	117.733	1.581	1.002	0.580	18.571	1.021	43.130	44.033	27.170	27.739	133.285	1.937	133.483	-0.009	-0.009	134.494	13.000	135.494	2.023	13.574	75.255	40.930	-0.292	2.012	271.849	0.000	0.000	0.000	0.000	13.210	132.099	132.099
223	8.450	27.723	-8.450	-27.723	134.004	2.524	-20.120	1.884	7	5	9	6	5	117.733	1.591	1.006	0.585	18.735	1.019	42.792	43.589	26.933	27.435	131.621	1.906	132.414	-0.009	-0.009	132.827	12.898	133.827	2.021	13.510	74.964	40.881	-0.288	2.019	270.625	0.000	0.000	0.000	0.000	13.077	130.767	130.767
224	8.500	27.887	-8.500	-27.887	133.714	1.803	-20.120	1.348	8	6	9	6	5	120.915	1.601	1.011	0.590	18.899	1.016	32.025	32.546	25.834	26.255	130.717	1.365	132.114	-0.009	-0.009	131.922	12.870	132.922	1.917	10.797	74.836	40.860	-0.246	2.022	270.497	0.000	0.000	0.000	0.000	13.018	130.182	130.182
225	8.550	28.051	-8.550	-28.051	135.556	1.723	-19.800	1.271	8	6	9	6	5	120.915	1.611	1.016	0.595	19.063	1.014	32.466	32.916	25.981	26.342	131.904	1.286	133.946	-0.009	-0.009	133.098	13.046	134.098	1.895	10.273	75.160	40.914	-0.240	2.016	273.403	0.000	0.000	0.000	0.000	13.166	131.664	131.664
226	8.600	28.215	-8.600	-28.215	137.928	1.734	-19.610	1.257	8	6	9	6	5	120.915	1.621	1.021	0.600	19.227	1.011	33.034	33.413	26.358	26.660	133.598	1.272	136.308	-0.009	-0.009	134.786	13.272	135.786	1.887	10.082	75.590	40.986	-0.240	2.008	277.051	0.000	0.000	0.000	0.000	13.365	133.652	133.652
227	8.650	28.379	-8.650	-28.379	142.950	1.917	-19.240	1.341	8	6	9	6	5	120.915	1.631	1.025	0.605	19.391	1.009	34.236	34.548	27.413	27.663	137.863	1.356	141.320	-0.008	-0.009	139.039	13.752	140.039	1.896	10.308	76.548	41.145	-0.250	1.989	284.417	0.000	0.000	0.000	0.000	13.819	138.194	138.194
228	8.700	28.543	-8.700	-28.543	135.660	2.672	-19.290	1.970	7	5	9	6	5	117.733	1.640	1.030	0.610	19.555	1.007	43.321	43.616	27.418	27.605	130.149	1.994	134.020	-0.009	-0.009	131.326	13.054	132.326	2.035	13.910	74.982	40.884	-0.293	2.022	274.420	0.000	0.000	0.000	0.000	13.085	130.849	130.849
229	8.750	28.707	-8.750	-28.707	109.552	3.693	-18.930	3.371	6	5	9	6	8	114.551	1.650	1.035	0.615	19.720	1.005	41.980	42.177	24.419	24.533	104.340	3.423	107.903	-0.011	-0.011	105.506	10.552	106.506	2.274	21.574	68.794	39.853	-0.378	2.160	236.729	0.000	0.000	0.000	0.000	10.544	105.441	105.441
230	8.800	28.871	-8.800	-28.871	90.904	3.769	-7.380	4.146	5	9	9	6	8	114.551	1.659	1.039	0.620	19.884	1.003	43.543	43.656	0.000	0.000	85.943	4.223	89.245	-0.009	-0.010	86.762	8.731	87.762	2.397	0.000	63.387	38.952	-0.425	2.308	209.878	0.000	0.000	0.000	0.000	8.731	87.313	87.313
231	8.850	29.035	-8.850	-29.035	92.365	3.456	7.170	3.742	6	4	9	6	8	114.551	1.669	1.043	0.626	20.048	1.001	35.394	35.414	21.364	21.376	86.983	3.811	90.697	-0.004	-0.004	87.368	8.827	88.368	2.359	24.753	63.785	39.018	-0.385	2.296	212.200	0.000	0.000	0.000	0.000	8.853	88.534	88.534
232	8.900	29.199	-8.900	-29.199	77.685	2.903	-12.050	3.737	5	4	8	6	4	114.551	1.678	1.047	0.631	20.212	0.999	37.211	37.155	18.383	18.356	72.597	3.819	76.007	-0.013	-0.013	73.559	7.478	74.559	2.409	26.784	58.765	38.182	-0.361	2.470	191.973	0.000	0.000	0.000	0.000	7.431	74.311	74.311
233	8.950	29.363	-8.950	-29.363	60.489	1.349	-3.430	2.230	6	5	8	6	5	114.551	1.688	1.052	0.636	20.376	0.996	23.179	23.097	13.800	13.751	55.935	2.294	58.802	-0.012	-0.013	56.642	5.805	57.642	2.328	23.555	51.535	36.977	-0.221	2.791	168.890	0.000	0.000	0.000	0.000	5.774	57.744	57.744
234	9.000	29.527	-9.000	-29.527	71.190	1.119	11.140	1.572	7	5	8	6	5	117.733	1.697	1.056	0.641	20.540	0.994	22.733	22.606	15.206	15.121	65.830	1.610	69.493	-0.004	-0.004	66.107	6.787	67.107	2.173	18.096	56.144	37.745	-0.194	2.579	183.662	0.000	0.000	0.000	0.000	6.782	67.817	67.817
235	9.050	29.691	-9.050	-29.691	64.816	1.696	-5.420	2.617	6	5	8	6	4	114.551	1.707	1.060	0.646	20.704	0.992	24.838	24.647	14.965	14.850	59.535	2.687	63.110	-0.013	-0.013	60.304	6.226	61.304	2.355	24.595	53.396	37.287	-0.252	2.703	175.289	0.000	0.000	0.000	0.000	6.162	61.617	61.617
236	9.100	29.855	-9.100	-29.855	61.752	1.667	41.980	2.700	6	5	8	6	4	114.551	1.716	1.065	0.651	20.869	0.990	23.663	23.435	14.422	14.282	56.408	2.777	60.037	0.011	0.011	55.789	5.790	56.789	2.380	25.606	51.950	37.046	-0.248	2.773	171.337	0.000	0.000	0.000	0.000	5.859	58.586	58.586
237	9.150	30.019	-9.150	-30.019	82.299	2.456	38.300	2.984	6	5	8	6	4	114.551	1.725	1.069	0.656	21.033	0.988	31.537	31.169	18.736	18.518	75.402	3.048	80.574	0.007	0.007	74.897	7.770	75.897	2.323	23.371	60.126	38.408	-0.303	2.424	199.538	0.000	0.000	0.000	0.000	7.792	77.924	77.924
238	9.200	30.183	-9.200	-30.183	77.254	3.384	43.870	4.380	5	4	8	6	4	114.551	1.735	1.073	0.661	21.197	0.986	37.005	36.500	18.773	18.517	70.390	4.481	75.520	0.009	0.009	69.730	7.270	70.730	2.466	29.206	58.255	38.097	-0.416	2.495	192.859	0.000	0.000	0.000	0.000	7.300	73.001	73.001
239	9.250	30.347	-9.250	-30.347	103.402	3.214	14.680	3.108	6	5	9	6	4	114.551	1.744	1.078	0.667	21.361	0.984	39.624	39.006	23.004	22.646	94.377	3.162	101.658	-0.002	-0.002	94.570	9.862	95.570	2.270	21.413	66.554	39.480	-0.342	2.224	230.110	0.000	0.000	0.000	0.000	9.751	97.515	97.515
240	9.300	30.511	-9.300	-30.511	129.185	2.451	-13.650	1.897	7	5	9	6	5	117.733	1.754	1.082	0.672	21.525	0.982	41.253	40.527	26.210	25.749	117.822	1.923	127.432	-0.008	-0.009	118.837	12.417	119.837	2.045	14.189	72.877	40.534	-0.277	2.076	268.245	0.000	0.000	0.000	0.000	12.158	121.582	121.582
241	9.350	30.675	-9.350	-30.675	142.620	1.703	-14.340	1.194	8	6	9	6	5	120.915	1.764	1.087	0.677	21.689	0.980	34.158	33.485	27.094	26.560	129.676	1.209	140.858	-0.008	-0.008	130.711	13.706	131.711	1.871	9.703	75.651	40.996	-0.232	2.017	287.732	0.000	0.000	0.000	0.000	13.394	133.938	133.938
242	9.400	30.840	-9.400	-30.840	142.719	1.515	-13.030	1.062	8	6	9	6	5	120.915	1.773	1.091	0.682	21.853	0.978	34.181	33.434	26.772	26.186	129.187	1.075	140.946	-0.008	-0.008	130.185	13.711	131.185	1.836	8.911	75.608	40.989	-0.219	2.018	288.166	0.000	0.000	0.000	0.000	13.374	133.736	133.736
243	9.450	31.004	-9.450	-31.004	141.088	1.514	-9.980	1.073	8	6	9	6	5	120.915	1.783	1.096	0.687	22.018	0.976	33.791	32.979	26.539	25.902	127.124	1.087	139.305	-0.007	-0.007	128.035	13.546	129.035	1.844	9.082	75.215	40.923	-0.219	2.027	286.156	0.000	0.000	0.000	0.000	13.192	131.918	131.918
244	9.500	31.168	-9.500	-31.168	140.762	1.544	-7.640	1.097	8	6	9	6	5	120.915	1.793	1.101	0.692	22.182	0.974	33.713	32.832	26.554	25.860	126.266	1.111	138.970	-0.007	-0.007	127.111	13.508	128.111	1.852	9.263	75.087	40.902	-0.220	2.031	285.989	0.000	0.000	0.000	0.000	13.133	131.326	131.326
245	9.550	31.332	-9.550	-31.332	141.059	1.527	-5.040	1.083	8	6	9	6	5	120.915	1.803	1.106	0.697	22.346	0.972	33.784	32.829	26.573	25.822	125.977	1.097	139.256	-0.006	-0.006	126.750	13.528	127.750	1.848	9.175	75.085	40.902	-0.219	2.032	286.703	0.000	0.000	0.000	0.000	13.132	131.317	131.317
246	9.600	31.496	-9.600	-31.496	141.208	1.516	-5.070	1.074	8	6	9	6	5	120.915	1.813	1.111	0.702	22.510	0.970	33.819	32.793	26.581	25.774	125.559	1.088	139.396	-0.006	-0.006	126.334	13.543	127.334	1.846	9.128	75.053	40.896	-0.218	2.033	287.209	0.000	0.000	0.000	0.000	13.117	131.172	131.172
247	9.650	31.660	-9.650	-31.660	142.043	1.422	-7.490	1.001	9	6	9	6	6	124.097	1.823	1.116	0.708	22.674	0.968	27.215	26.331	26.529	25.667	125.743	1.014	140.221	-0.007	-0.007	126.587	13.630	127.587	1.824	8.643	75.158	40.914	-0.211	2.032	288.694	0.000	0.000	0.000	0.000	13.166	131.656	131.656
248	9.700	31.824	-9.700	-31.824	142.577	1.452	-10.130	1.018	9	6	9	6	5	124.097	1.833	1.121	0.713	22.838	0.965	27.318	26.370	26.672	25.747	125.643	1.032	140.744	-0.007	-0.007	126.561	13.689	127.561	1.829	8.744	75.201	40.921	-0.213	2.031	289.760	0.000	0.000	0.000	0.000	13.185	131.852	131.852
249	9.750	31.988	-9.750	-31.988	136.130	1.587	-11.200	1.166	8	6	9	6	5	120.915	1.843	1.126	0.718	23.002	0.963	32.603	31.403	25.987	25.031	119.354	1.182	134.287	-0.008	-0.008	120.303	13.075	121.303	1.884	10.015	73.812	40.689	-0.221	2.062	280.865	0.000	0.000	0.000	0.000	12.561	125.614	125.614
250	9.800	32.152	-9.800	-32.152	134.388	1.359	-11.610	1.011	8	6	9	6	5	120.915	1.853	1.130	0.723	23.167	0.961	32.186	30.936	25.311	24.328	117.296	1.025	132.535	-0.008	-0.008	118.257	12.909	119.257	1.847	9.161	73.382	40.618	-0.206	2.073	278.642	0.000	0.000	0.000	0.000	12.374	123.742	123.742
251	9.850	32.316	-9.850	-32.316	132.876	1.456	-13.390	1.096	8	6	9	6	5	120.915	1.863	1.135	0.728	23.331	0.959	31.824	30.523	25.281	24.248	115.460	1.111	131.014	-0.009	-0.009	116.470	12.770	117.470	1.875	9.801	72.997	40.554	-0.212	2.082	276.739	0.000	0.000	0.000	0.000	12.209	122.092	122.092
252	9.900	32.480	-9.900	-32.480	125.452	1.448	-14.030	1.154	8	6	9	6	5	120.915	1.873	1.140	0.733	23.495	0.957	30.046	28.757	24.176	23.139	108.450	1.172	123.580	-0.009	-0.009	109.478	12.060	110.478	1.910	10.627	71.288	40.269	-0.211	2.121	266.169	0.000	0.000	0.000	0.000	11.503	115.028	115.028
253	9.950	32.644	-9.950	-32.644	123.138	0.783	-14.770	0.636	9	6	9	6	6	124.097	1.883	1.145	0.738	23.659	0.955	23.593	22.532	22.422	21.414	105.952	0.646	121.255	-0.010	-0.010	107.000	11.841	108.000	1.753	7.144	70.693	40.170	-0.155	2.135	263.040	0.000	0.000	0.000	0.000	11.266	112.662	112.662
254	10.000	32.808	-10.000	-32.808	120.054	0.931	-15.380	0.775	9	6	9	6	6	124.097	1.893	1.150	0.743	23.823	0.953	23.020	21.920	22.340	21.292	102.794	0.788	118.161	-0.010	-0.010	103.859	11.547	104.859	1.814	8.431	69.903	40.038	-0.169	2.155	258.766	0.000	0.000	0.000	0.000	10.966	109.599	109.599
255	10.050	32.972	-10.050	-32.972	120.123	1.148	-4.270	0.956	8	6	9	6	5	120.915	1.903	1.155	0.749	23.987	0.951	28.770	27.357	22.830	21.709	102.407	0.971	118.221	-0.007	-0.007	103.171	11.521	104.171	1.872	9.731	69.858	40.030	-0.188	2.156	259.148	0.000	0.000	0.000	0.000	10.943	109.428	109.428
256	10.100	33.136	-10.100	-33.136	119.158	1.472	-13.160	1.235	8	6	9	6	5	120.915	1.913	1.160	0.754	24.151	0.949	28.538	27.081	23.305	22.115	101.142	1.255	117.245	-0.010	-0.010	102.146	11.455	103.146	1.949	11.613	69.567	39.982	-0.212	2.164	257.988	0.000	0.000	0.000	0.000	10.832	108.324	108.324
257	10.150	33.300	-10.150	-33.300	89.791	2.202	-14.300	2.452	7	5	9	6	5	117.733	1.923	1.164	0.759	24.315	0.947	28.673	27.154	19.789	18.741	75.496	2.506	87.868	-0.013	-0.014	76.531	8.645	77.531	2.248	20.629	61.399	38.621	-0.269	2.398	215.375	0.000	0.000	0.000	0.000	8.146	81.463	81.463
258	10.200	33.464	-10.200	-33.464	67.171	2.505	-7.880	3.729	5	4	8	6	4	114.551	1.933	1.169	0.764	24.480	0.945	32.175	30.413	16.345	15.450	55.842	3.840	65.239	-0.015	-0.015	56.706	6.459	57.706	2.469	29.333	53.025	37.225	-0.324	2.744	184.413	0.000	0.000	0.000	0.000	6.083	60.826	60.826
259	10.250	33.628	-10.250	-33.628	75.831	3.227	40.190	4.256	5	4	8	6	4	114.551	1.942	1.173	0.769	24.644	0.944	36.323	34.271	18.509	17.464	63.016	4.367	73.890	0.006	0.007	62.601	7.144	63.601	2.476	29.621	56.449	37.796	-0.387	2.590	196.511	0.000	0.000	0.000	0.000	6.854	68.543	68.543
260	10.300	33.792	-10.300	-33.792	99.915	2.612	225.100	2.614	7	5	8	6	4	117.733	1.952	1.177	0.774	24.808	0.942	31.906	30.048	21.922	20.645	83.235	2.666	97.964	0.063	0.064	77.922	8.899	78.922	2.237	20.260	64.301	39.104	-0.281	2.307	230.604	0.000	0.000	0.000	0.000	9.014	90.143	90.143
261	10.350	33.956	-10.350	-33.956	147.611	2.837	8.170	1.922	7	5	9	6	5	117.733	1.961	1.182	0.779	24.972	0.940	47.137	44.306	29.694	27.911	123.276	1.948	145.651	-0.004	-0.004	123.719	14.117	124.719	2.023	13.573	75.432	40.959	-0.283	2.036	300.653	0.000	0.000	0.000	0.000	13.292	132.918	132.918
262	10.400	34.120	-10.400	-34.120	120.682	3.218	-10.830	2.667	7	5	9	6	4	117.733	1.971	1.187	0.784	25.136	0.938	38.538	36.154	25.949	24.344	100.092	2.711	118.712	-0.009	-0.009	101.038	11.594	102.038	2.189	18.623	69.604	39.988	-0.316	2.168	261.766	0.000	0.000	0.000	0.000	10.846	108.462	108.462
263	10.450	34.284	-10.450	-34.284	110.627	3.685	108.390	3.331	6	5	8	6	4	114.551	1.980	1.191	0.790	25.300	0.936	42.392	39.696	24.806	23.229	91.266	3.392	108.647	0.023	0.024	89.087	10.274	90.087	2.288	22.077	67.057	39.564	-0.352	2.233	247.078	0.000	0.000	0.000	0.000	9.924	99.240	99.240
264	10.500	34.448	-10.500	-34.448	120.621	3.708	375.010	3.074	6	5	8	6	4	114.551	1.990	1.195	0.795	25.464	0.935	46.222	43.205	26.466	24.738	99.297	3.126	118.632	0.090	0.092	90.164	10.434	91.164	2.237	20.262	69.485	39.968	-0.333	2.173	262.165	0.000	0.000	0.000	0.000	10.801	108.012	108.012
265	10.550	34.612	-10.550	-34.612	143.040	3.991	124.890	2.790	7	5	9	6	4	117.733	1.999	1.200	0.800	25.629	0.933	45.677	42.617	30.357	28.324	117.620	2.830	141.041	0.022	0.022	115.036	13.330	116.036	2.157	17.588	74.318	40.774	-0.341	2.063	295.239	0.000	0.000	0.000	0.000	12.785	127.852	127.852
266	10.600	34.776	-10.600	-34.776	114.686	4.068	-13.500	3.547	6	5	9	6	8	114.551	2.009	1.204	0.805	25.793	0.931	43.948	40.928	25.855	24.079	93.623	3.610	112.678	-0.011	-0.011	94.642	11.027	95.642	2.300	22.532	67.933	39.710	-0.379	2.212	253.832	0.000	0.000	0.000	0.000	10.232	102.321	102.321
267	10.650	34.941	-10.650	-34.941	85.382	3.604	14.680	4.221	5	4	9	6	4	114.551	2.018	1.208	0.810	25.957	0.930	40.898	38.021	20.523	19.079	69.021	4.323	83.364	-0.004	-0.004	69.312	8.136	70.312	2.443	28.204	59.425	38.292	-0.399	2.478	211.649	0.000	0.000	0.000	0.000	7.604	76.041	76.041
268	10.700	35.105	-10.700	-35.105	70.661	2.866	185.940	4.056	5	4	7	6	4	114.551	2.028	1.213	0.815	26.121	0.928	33.847	31.410	17.335	16.087	56.625	4.176	68.634	0.071	0.073	52.509	6.213	53.509	2.487	30.091	53.950	37.379	-0.341	2.710	191.586	0.000	0.000	0.000	0.000	6.282	62.820	62.820
269	10.750	35.269	-10.750	-35.269	68.194	2.952	88.680	4.329	5	4	8	6	3	114.551	2.037	1.217	0.820	26.285	0.926	32.665	30.260	16.989	15.738	54.390	4.462	66.157	0.029	0.029	52.788	6.268	53.788	2.519	31.535	52.881	37.201	-0.368	2.762	188.406	0.000	0.000	0.000	0.000	6.052	60.520	60.520
270	10.800	35.433	-10.800	-35.433	57.079	2.635	91.160	4.616	4	4	8	6	3	114.551	2.047	1.221	0.825	26.449	0.925	36.455	33.711	15.009	12.375	45.086	4.788	55.033	0.035	0.037	43.431	5.196	44.431	2.628	36.759	47.731	36.343	-0.366	3.025	172.746	0.000	0.000	0.000	0.000	5.057	50.567	45.086
271	10.850	35.597	-10.850	-35.597	64.296	2.327	377.330	3.619	5	4	6	5	4	114.551	2.056	1.225	0.831	26.613	0.923	30.798	28.430	15.731	14.522	50.813	3.739	62.241	0.170	0.176	41.875	5.031	42.875	2.481	29.844	51.093	36.903	-0.273	2.851	183.405	0.000	0.000	0.000	0.000	5.686	56.861	56.861
272	10.900	35.761	-10.900	-35.761	98.690	2.296	296.370	2.326	7	5	7	6	5	117.733	2.065	1.230	0.836	26.778	0.921	31.515	29.041	21.415	19.733	78.602	2.376	96.626	0.085	0.087	71.756	8.568	72.756	2.211	19.356	63.324	38.941	-0.253	2.347	231.742	0.000	0.000	0.000	0.000	8.712	87.122	87.122
273	10.950	35.925	-10.950	-35.925	81.564	2.674	140.030	3.278	6	4	8	6	4	114.551	2.075	1.234	0.841	26.942	0.920	31.255	28.750	19.030	17.505	64.432	3.364	79.490	0.043	0.044	61.570	7.395	62.570	2.378	25.521	57.809	38.022	-0.300	2.546	207.788	0.000	0.000	0.000	0.000	7.187	71.875	71.875
274	11.000	36.089	-11.000	-36.089	85.409	3.883	371.550	4.546	11	4	7	6	3	130.461	2.085	1.239	0.846	27.106

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
322	13.400	43.963	-13.400	-43.963	88.375	2.385	527.890	2.699	6	5	6	5	4	114.551	2.549	1.457	1.092	34.984	0.847	33.865	28.672	20.082	17.003	58.939	2.779	85.828	0.174	0.179	48.373	6.888	49.373	2.318	23.212	57.732	38.009	-0.231	2.596	229.496	0.000	0.000	0.000	0.000	7.168	71.681	71.681
323	13.450	44.127	-13.450	-44.127	100.074	2.554	652.620	2.552	7	5	6	5	4	117.733	2.558	1.461	1.097	35.149	0.845	31.957	27.016	22.200	18.768	66.764	2.619	97.517	0.193	0.198	53.568	7.636	54.568	2.263	21.174	61.252	38.596	-0.234	2.462	246.499	0.000	0.000	0.000	0.000	8.105	81.047	81.047
324	13.500	44.291	-13.500	-44.291	105.792	3.036	482.480	2.870	6	5	7	6	4	114.551	2.568	1.466	1.102	35.313	0.844	40.539	34.220	23.680	19.989	70.460	2.941	103.225	0.132	0.135	60.932	8.692	61.932	2.284	21.927	62.801	38.854	-0.270	2.410	255.098	0.000	0.000	0.000	0.000	8.555	85.549	85.549
325	13.550	44.455	-13.550	-44.455	102.752	2.995	838.170	2.915	6	5	0	5	4	114.551	2.577	1.470	1.107	35.477	0.843	39.375	33.188	23.142	19.506	68.180	2.990	100.177	0.244	0.250	51.127	7.337	52.127	2.298	22.449	61.924	38.708	-0.251	2.441	250.875	0.000	0.000	0.000	0.000	8.297	82.970	82.970
326	13.600	44.619	-13.600	-44.619	99.269	2.515	909.640	2.534	7	5	0	5	4	117.733	2.587	1.474	1.112	35.641	0.842	31.700	26.679	22.037	18.547	65.606	2.601	96.683	0.275	0.282	47.094	6.790	48.094	2.265	21.232	60.893	38.536	-0.217	2.478	246.046	0.000	0.000	0.000	0.000	8.004	80.037	80.037
327	13.650	44.783	-13.650	-44.783	97.917	1.953	1016.670	1.995	7	5	0	5	5	117.733	2.596	1.479	1.117	35.805	0.840	31.268	26.275	21.114	17.742	64.483	2.049	95.322	0.313	0.321	43.772	6.340	44.772	2.196	18.849	60.455	38.463	-0.178	2.494	244.337	0.000	0.000	0.000	0.000	7.883	78.826	78.826
328	13.700	44.947	-13.700	-44.947	95.759	2.024	1127.490	2.114	7	5	0	5	5	117.733	2.606	1.483	1.122	35.969	0.839	30.579	25.657	20.867	17.508	62.824	2.173	93.154	0.356	0.366	39.846	5.802	40.846	2.221	19.702	59.773	38.350	-0.174	2.521	241.474	0.000	0.000	0.000	0.000	7.697	76.970	76.970
329	13.750	45.111	-13.750	-45.111	104.135	2.189	1237.440	2.102	7	5	0	5	5	117.733	2.616	1.488	1.128	36.133	0.838	33.254	27.859	22.431	18.792	68.258	2.156	101.521	0.360	0.369	43.046	6.276	44.046	2.193	18.766	62.133	38.743	-0.182	2.437	253.884	0.000	0.000	0.000	0.000	8.358	83.576	83.576
330	13.800	45.275	-13.800	-45.275	101.727	2.048	1059.950	2.013	7	5	0	5	5	117.733	2.625	1.492	1.133	36.298	0.836	32.485	27.173	21.864	18.289	66.430	2.067	99.103	0.314	0.322	45.012	6.576	46.012	2.188	18.589	61.418	38.624	-0.182	2.463	250.611	0.000	0.000	0.000	0.000	8.152	81.519	81.519
331	13.850	45.439	-13.850	-45.439	96.470	2.717	1054.060	2.816	6	5	0	5	4	114.551	2.635	1.497	1.138	36.462	0.835	36.967	30.877	21.833	18.236	62.715	2.895	93.837	0.329	0.338	41.486	6.090	42.486	2.309	22.862	59.855	38.363	-0.219	2.520	243.232	0.000	0.000	0.000	0.000	7.719	77.192	77.192
332	13.900	45.603	-13.900	-45.603	132.014	2.856	1195.590	2.163	7	5	0	5	5	117.733	2.644	1.501	1.143	36.626	0.834	42.156	35.159	27.715	23.115	86.210	2.208	129.371	0.274	0.280	62.103	9.072	63.103	2.131	16.747	68.804	39.855	-0.226	2.245	296.476	0.000	0.000	0.000	0.000	10.548	105.478	105.478
333	13.950	45.767	-13.950	-45.767	132.656	2.838	540.850	2.139	7	5	7	6	5	117.733	2.654	1.506	1.148	36.790	0.833	42.362	35.277	27.799	23.150	86.370	2.183	130.004	0.119	0.121	75.917	11.091	76.917	2.126	16.605	68.900	39.871	-0.246	2.243	297.705	0.000	0.000	0.000	0.000	10.583	105.832	105.832
334	14.000	45.931	-14.000	-45.931	106.251	3.223	1004.510	3.033	6	5	0	5	4	114.551	2.663	1.510	1.153	36.954	0.832	40.715	33.857	24.003	19.960	68.620	3.111	103.589	0.284	0.292	48.614	7.175	49.614	2.305	22.709	62.496	38.803	-0.252	2.429	258.214	0.000	0.000	0.000	0.000	8.464	84.642	84.642
335	14.050	46.095	-14.050	-46.095	113.377	2.442	910.930	2.154	7	5	0	5	5	117.733	2.673	1.515	1.158	37.118	0.830	36.205	30.062	24.260	20.144	73.121	2.206	110.705	0.241	0.246	55.105	8.138	56.105	2.177	18.234	64.315	39.107	-0.212	2.372	269.039	0.000	0.000	0.000	0.000	9.019	90.187	90.187
336	14.100	46.259	-14.100	-46.259	103.652	2.318	1177.620	2.236	7	5	0	5	4	117.733	2.683	1.519	1.163	37.282	0.829	33.099	27.443	22.552	18.698	66.492	2.296	100.970	0.343	0.353	43.052	6.408	44.052	2.217	19.573	61.701	38.671	-0.190	2.458	254.882	0.000	0.000	0.000	0.000	8.233	82.328	82.328
337	14.150	46.423	-14.150	-46.423	102.071	2.551	1240.080	2.499	7	5	0	5	4	117.733	2.692	1.524	1.169	37.447	0.828	32.595	26.984	22.586	18.698	65.250	2.567	99.380	0.368	0.378	40.603	6.070	41.603	2.257	20.962	61.218	38.591	-0.198	2.476	252.817	0.000	0.000	0.000	0.000	8.095	80.952	80.952
338	14.200	46.587	-14.200	-46.587	102.001	2.196	1166.340	2.153	7	5	0	5	5	117.733	2.702	1.528	1.174	37.611	0.827	32.572	26.925	22.139	18.301	65.004	2.211	99.300	0.345	0.355	41.940	6.284	42.940	2.211	19.379	61.156	38.580	-0.182	2.479	252.962	0.000	0.000	0.000	0.000	8.078	80.776	80.776
339	14.250	46.751	-14.250	-46.751	98.118	2.088	1136.970	2.128	7	5	0	5	5	117.733	2.712	1.533	1.179	37.775	0.825	31.332	25.862	21.379	17.646	62.271	2.189	95.407	0.350	0.360	39.877	6.000	40.877	2.221	19.693	60.001	38.388	-0.175	2.522	247.563	0.000	0.000	0.000	0.000	7.759	77.586	77.586
340	14.300	46.915	-14.300	-46.915	96.997	1.679	1253.780	1.731	7	5	0	5	5	117.733	2.721	1.537	1.184	37.939	0.824	30.974	25.529	20.633	17.006	61.351	1.781	94.277	0.391	0.403	36.654	5.543	37.654	2.163	17.771	59.629	38.326	-0.144	2.537	246.188	0.000	0.000	0.000	0.000	7.659	76.586	76.586
341	14.350	47.079	-14.350	-47.079	96.677	1.670	1301.860	1.727	7	5	0	4	5	117.733	2.731	1.542	1.189	38.103	0.823	30.872	25.407	20.574	16.932	60.957	1.778	93.947	0.408	0.420	35.362	5.369	36.362	2.164	17.802	59.492	38.303	-0.140	2.543	245.973	0.000	0.000	0.000	0.000	7.622	76.221	76.221
342	14.400	47.244	-14.400	-47.244	96.424	1.804	1314.160	1.871	7	5	0	4	5	117.733	2.741	1.546	1.194	38.267	0.822	30.791	25.303	20.733	17.037	60.608	1.926	93.685	0.413	0.425	34.843	5.308	35.843	2.189	18.621	59.375	38.283	-0.146	2.549	245.853	0.000	0.000	0.000	0.000	7.591	75.910	75.910
343	14.450	47.408	-14.450	-47.408	107.537	2.323	1393.210	2.160	7	5	0	5	4	117.733	2.750	1.551	1.199	38.431	0.821	34.340	28.178	23.213	19.048	67.593	2.217	104.788	0.393	0.404	40.315	6.136	41.315	2.198	18.935	62.460	38.797	-0.178	2.438	262.336	0.000	0.000	0.000	0.000	8.454	84.535	84.535
344	14.500	47.572	-14.500	-47.572	112.400	3.339	1143.780	2.971	6	5	0	5	4	114.551	2.760	1.555	1.204	38.596	0.819	43.072	35.293	25.184	20.636	70.523	3.045	109.642	0.307	0.315	48.334	7.348	49.334	2.286	22.008	63.687	39.002	-0.247	2.399	269.808	0.000	0.000	0.000	0.000	8.823	88.233	88.233
345	14.550	47.736	-14.550	-47.736	130.735	3.378	1112.450	2.584	7	5	0	5	4	117.733	2.769	1.560	1.210	38.760	0.818	41.748	34.160	28.200	23.074	82.078	2.640	127.967	0.256	0.262	60.582	9.198	61.582	2.196	18.876	67.977	39.717	-0.250	2.277	297.803	0.000	0.000	0.000	0.000	10.248	102.480	102.480
346	14.600	47.900	-14.600	-47.900	135.472	4.253	878.080	3.139	6	5	0	6	4	114.551	2.779	1.564	1.215	38.924	0.817	51.913	42.417	29.895	24.427	84.870	3.205	132.694	0.193	0.197	68.117	10.352	69.117	2.251	20.734	68.957	39.880	-0.302	2.252	305.265	0.000	0.000	0.000	0.000	10.604	106.043	106.043
347	14.650	48.064	-14.650	-48.064	123.005	5.648	912.220	4.592	11	9	0	5	3	130.461	2.789	1.569	1.220	39.088	0.816	117.839	96.133	0.000	0.000	76.648	4.698	120.217	0.222	0.227	59.271	9.056	60.271	2.406	0.000	66.145	39.412	-0.412	2.329	286.553	0.000	0.000	0.000	0.000	9.613	96.133	96.133
348	14.700	48.228	-14.700	-48.228	122.147	5.503	979.790	4.505	11	4	0	5	3	130.461	2.800	1.575	1.225	39.252	0.814	117.016	95.293	28.816	23.467	75.825	4.611	119.348	0.240	0.246	57.173	8.772	58.173	2.402	26.509	65.893	39.370	-0.396	2.337	285.557	0.000	0.000	0.000	0.000	9.529	95.293	95.293
349	14.750	48.392	-14.750	-48.392	123.467	4.799	1109.600	3.887	12	4	0	5	4	120.915	2.810	1.580	1.230	39.416	0.813	59.141	48.082	28.448	23.129	76.405	3.977	120.658	0.271	0.277	55.252	8.510	56.252	2.350	24.416	66.154	39.413	-0.332	2.330	287.849	0.000	0.000	0.000	0.000	9.616	96.165	96.165
350	14.800	48.556	-14.800	-48.556	119.550	4.218	752.860	3.528	6	4	0	5	4	114.551	2.820	1.584	1.235	39.580	0.812	45.812	37.192	27.270	22.140	73.707	3.613	116.732	0.186	0.191	59.648	9.202	60.648	2.327	23.542	65.189	39.252	-0.314	2.359	282.156	0.000	0.000	0.000	0.000	9.298	92.981	92.981
351	14.850	48.720	-14.850	-48.720	112.138	4.469	949.540	3.985	5	4	0	5	4	114.551	2.829	1.589	1.240	39.744	0.811	53.714	43.549	26.265	21.295	68.835	4.088	109.310	0.253	0.260	50.952	7.903	51.952	2.387	25.865	63.316	38.940	-0.329	2.418	271.237	0.000	0.000	0.000	0.000	8.710	87.098	87.098
352	14.900	48.884	-14.900	-48.884	127.529	4.539	1138.800	3.559	6	4	0	5	4	114.551	2.838	1.593	1.245	39.909	0.810	48.869	39.568	28.902	23.401	78.311	3.640	124.692	0.269	0.275	56.768	8.812	57.768	2.312	22.983	66.964	39.548	-0.309	2.310	294.760	0.000	0.000	0.000	0.000	9.892	98.920	98.920
353	14.950	49.048	-14.950	-49.048	244.093	3.528	825.490	1.445	8	6	8	6	5	120.915	2.848	1.597	1.251	40.073	0.809	58.460	47.266	45.657	36.915	151.080	1.462	241.246	0.100	0.102	135.727	20.916	136.727	1.828	8.736	85.532	42.643	-0.256	2.003	489.021	0.000	0.000	0.000	0.000	18.907	189.065	189.065
354	15.000	49.212	-15.000	-49.212	303.323	4.581	-9.070	1.510	9	6	10	7	5	124.097	2.858	1.602	1.256	40.237	0.807	58.117	46.916	55.820	45.062	187.588	1.525	300.467	-0.005	-0.005	188.548	29.086	189.548	1.783	7.757	91.715	43.673	-0.295	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.458	234.581	234.581
355	15.050	49.376	-15.050	-49.376	327.846	5.324	13.740	1.624	8	6	10	7	8	120.915	2.868	1.607	1.261	40.401	0.806	78.519	63.289	60.434	48.712	202.269	1.638	324.979	-0.003	-0.003	202.787	31.367	203.787	1.787	7.857	93.899	44.037	-0.311	0.000	0.000	0.000	0.000	0.000	0.000	0.000	25.316	253.157	253.157
356	15.100	49.540	-15.100	-49.540	344.738	6.567	-3.520	1.905	8	6	10	7	8	120.915	2.878	1.612	1.266	40.565	0.805	82.565	66.451	64.552	51.954	212.144	1.921	341.861	-0.004	-0.004	212.997	33.036	213.997	1.831	8.802	0.000	44.270	-0.340	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.580	265.804	265.804
357	15.150	49.704	-15.150	-49.704	348.763	4.243	-2.700	1.217	9	6	10	7	5	124.097	2.888	1.617	1.271	40.729	0.804	66.823	53.700	61.760	49.631	213.981	1.227	345.876	-0.004	-0.004	214.819	33.420	215.819	1.672	5.607	0.000	44.318	-0.282	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.850	268.498	268.498
358	15.200	49.868	-15.200	-49.868	353.461	5.823	-6.200	1.647	8	6	10	7	8	120.915	2.898	1.622	1.276	40.893	0.802	84.654	67.925	64.849	52.034	216.222	1.661	350.564	-0.004	-0.004	217.129	33.880	218.129	1.774	7.580	0.000	44.375	-0.320	0.000	0.000	0.000	0.000	0.000	0.000	0.000	27.170	271.701	271.701
359	15.250	50.032	-15.250	-50.032	341.176	8.320	4.230	2.439	7	5	10	7	8	117.733	2.908	1.627	1.281	41.058	0.801	108.949	87.294	66.097	52.959	208.041	2.460	338.270	-0.003	-0.003	208.747	32.672	209.747	1.924	10.977	94.870	44.199	-0.382	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.188	261.881	261.881
360	15.300	50.196	-15.300	-50.196	343.533	9.548	-2.680	2.779	12	8	10	7	8	120.915	2.918	1.631	1.286	41.222	0.800	164.552	131.656	0.000	0.000	208.885	2.803	340.617	-0.004	-0.004	209.724	32.919	210.724	1.970	0.000	0.000	44.225	-0.412	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.331	263.313	263.313
361	15.350	50.360	-15.350	-50.360	312.069	8.567	1.370	2.745	12	8	10	7	8	120.915	2.928	1.636	1.291	41.386	0.799	149.481	119.422	0.000	0.000	189.027	2.771	309.142	-0.004	-0.004	189.750	29.892	190.750	1.989	0.000	92.231	43.759	-0.397	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.912	239.118	238.844
362	15.400	50.524	-15.400	-50.524	261.639	6.827	20.650	2.609	7	5	10	6	8	117.733	2.937	1.641	1.297	41.550	0.798	83.550	66.654	52.478	41.866	157.735	2.639	258.703	-0.002	-0.003	158.132	25.003	159.132	2.015	13.363	87.138	42.910	-0.364	2.105	551.019	0.000	0.000	0.000	0.000	19.996	199.963	199.963
363	15.450	50.688	-15.450	-50.688	177.122	5.034	96.470	2.842	7	5	9	6	4	117.733	2.947	1.645	1.302	41.714	0.797	56.561	45.061	37.467	29.849	105.905	2.890	174.176	0.010	0.010	104.866	16.680	105.866	2.149	17.332	75.916	41.040	-0.334	2.095	371.297	0.000	0.000	0.000	0.000	13.518	135.182	135.182
364	15.500	50.852	-15.500	-50.852	120.080	3.147	924.230	2.621	7	5	0	5	4	117.733	2.957	1.650	1.307	41.878	0.796	38.345	30.507	26.324	20.943	71.020	2.687	117.124	0.229	0.235	54.319	8.740	55.319	2.235	20.191	64.736	39.177	-0.239	2.385	286.549	0.000	0.000	0.000	0.000	9.152	91.521	91.521
365	15.550	51.016	-15.550	-51.016	141.840	4.152	794.560	2.927	7	5	0	6	4	117.733	2.966	1.654	1.312	42.042	0.794	45.294	35.986	30.930	24.573	83.978	2.990	138.875	0.166	0.169	69.773	11.212	70.773	2.222	19.756	69.470	39.966	-0.290	2.256	320.081	0.000	0.000	0.000	0.000	10.796	107.957	107.957
366	15.600	51.180	-15.600	-51.180	129.365	4.548	830.590	3.516	6	4	0	5	4	114.551	2.976	1.659	1.317	42.207	0.793	49.573	39.333	29.290	23.240	76.225	3.598	126.390	0.190	0.195	61.384	9.909	62.384	2.310	22.901	66.793	39.520	-0.317	2.327	301.214	0.000	0.000	0.000	0.000	9.833	98.331	98.331
367	15.650	51.345	-15.650	-51.345	98.609	3.856	962.570	3.910	5	4	0	5	3	114.551	2.985	1.663	1.322	42.371	0.792	47.234	37.429	23.502	18.623	57.522	4.032	95.625	0.291	0.300	40.244	6.568	41.244	2.425	27.430	58.975	38.217	-0.288	2.588	255.318	0.000	0.000	0.000	0.000	7.486	74.857	74.857
368	15.700	51.509	-15.700	-51.509	88.476	2.780	1242.350	3.142	6	4	0	4	4	114.551	2.995	1.667	1.327	42.535	0.791	33.904	26.831	20.734	16.409	51.289	3.252	85.482	0.423	0.438	28.818	4.761	29.818	2.388	25.913	55.830	37.692	-0.192	2.721	240.879	0.000	0.000	0.000	0.000	6.708	67.078	67.078
369	15.750	51.673	-15.750	-51.673	92.633	2.730	1281.920	2.947	6	4	0	4	4	114.551	3.004	1.672	1.332	42.699	0.790	35.497	28.056	21.380	16.898	53.640	3.046	89.630	0.418	0.432	30.491	5.041	31.491	2.354	24.565	57.109	37.906	-0.188	2.666	247.106	0.000	0.000	0.000	0.000	7.014	70.140	70.140
370	15.800	51.837	-15.800	-51.837	100.576	2.498	1239.210	2.484	7	5	0	5	4	117.733	3.014	1.676	1.338	42.863	0.789	32.117	25.351	22.428	17.703	58.235	2.560	97.564	0.371	0.383	35.945	5.930	36.945	2.275	21.608	59.430	38.292	-0.183	2.573	258.887	0.000	0.000	0.000	0.000	7.605	76.054	76.054
371	15.850	52.001	-15.850	-52.001	101.176	3.072	1192.670	3.036	6	5	0	5	4	114.551	3.023	1.680	1.343	43.027	0.788	38.770	30.563	23.178	18.271	58.433	3.130	98.154	0.355	0.366	37.070	6.126	38.070	2.337	23.914	59.562	38.314	-0.218	2.569	260.002	0.000	0.000	0.000	0.000	7.641	76.407	76.407
372	15.900	52.165	-15.900	-52.165	104.529	3.392	1172.400	3.245	6	4	0	5	4	114.551	3.033	1.685	1.348	43.191	0.787	40.055	31.536	24.072	18.952	60.271	3.342	101.498	0.337	0.347	39.340	6.508	40.340	2.349	24.371	60.461	38.464	-0.238	2.536	265.161	0.000	0.000	0.000	0.000	7.884	78.840	78.840
373	15.950	52.329	-15.950	-52.329	105.783	2.722	1221.140	2.573	7	5	0	5	4	117.733	3.042	1.689	1.353	43.356	0.786	33.780	26.561	23.555	18.521	60.885	2.649	102.742	0.348	0.358	39.077	6.483	40.077	2.272	21.487	60.765	38.515	-0.198	2.525	267.252	0.000	0.000	0.000	0.000	7.968	79.682	79.682
374	16.000	52.493	-16.000	-52.493	105.926	2.997	1184.710	2.829	6	5	0	5	4	114.551	3.052	1.694	1.358	43.520	0.785	40.591	31.874	23.894	18.763	60.771	2.913	102.875	0.336	0.346	39.729	6.605	40.729	2.302	22.583	60.766	38.515	-0.215	2.526	267.701	0.000	0.000	0.000	0.000	7.969	79.685	79.685
375	16.050	52.657	-16.050	-52.657	97.403	1.812	977.590	1.860	7	5	0	5	5	117.733	3.061	1.698	1.363	43.684	0.784	31.104	24.393	21.038	16.498	55.586	1.921	94.343	0.299	0.309	38.410	6.408	39.410	2.200	18.982	58.325	38.108	-0.156	2.621	255.431	0.000	0.000	0.000	0.000	7.318	73.178	73.178
376	16.100	52.821	-16.100	-52.821	84.486	2.138	1288.920	2.531	7	5	0	4	4	117.733	3.071	1.702	1.368	43.848	0.783	26.979	21.130	19.370	15.170	47.842	2.626	81.417	0.460	0.477	25.005	4.240	26.005	2.339	23.982	54.209	37.422	-0.143	2.803	236.946	0.000	0.000	0.000	0.000	6.339	63.390	63.390
377	16.150	52.985	-16.150	-52.985	117.078	3.957	1226.650	3.380	6	4	0	5	4	114.551	3.080	1.707	1.373	44.012	0.782	44.864	35.092	26.744	20.918	66.815	3.471	113.999	0.315	0.324	45.179	7.548	46.179	2.330	23.663	63.523	38.975	-0.265	2.434	285.116	0.000	0.000	0.000	0.000	8.773	87.729	87.729
378	16.200	53.149	-16.200	-53.149	131.589	4.780	579.640	3.633	6	4	7	6	4	114.551	3.090	1.711	1.379	44.176	0.781	50.425	39.392	29.933	23.384	75.126	3.720	128.500	0.127	0.130	65.354	10.873	66.354	2.321	23.303	66.836	39.527	-0.336	2.336	307.529	0.000	0.000	0.000	0.000	9.848	98.479	98.479
379	16.250	53.313	-16.250	-53.313	141.273	5.066	1059.270	3.586	6	4	0	5	4	114.551	3.099	1.715	1.384	44.340	0.780	54.136	42.238	31.801	24.812	80.581	3.666	138.175	0.224	0.229	62.106	10.366	63.106	2.297	22.404	68.836	39.860	-0.324	2.283	322.673	0.000	0.000	0.000	0.000	10.559	105.595	105.595
380	16.300	53.477	-16.300	-53.477	140.967	5.037	923.730	3.573	6	4	0	5	4	114.551	3.109	1.720	1.389	44.505	0.779	54.018	42.094	31.729	24.725	80.197	3.654	137.859	0.195	0.199	64.232	10.742	65.232	2.297	22.396	68.738	39.844	-0.328	2.286	322.444	0.000	0.000	0.000	0.000	10.523	105.235	105.235
381	16.350	53.641	-16.350

| | | |

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
94	2.000	6.562	-2.000	-6.562	11.122	0.087	5.130	0.782	6	5	6	5	5	114.551	0.387	0.387	0.000	0.000	1.643	4.262	7.003	2.741	4.504	27.768	0.810	10.735	0.014	0.015	27.354	1.050	28.354	2.496	30.526	0.000	31.276	-0.048	0.000	0.000	0.000	0.000	0.000	0.000	1.751	17.508	17.508
95	2.050	6.726	-2.050	-6.726	9.656	0.052	44.150	0.539	6	5	4	5	5	114.551	0.396	0.396	0.000	0.000	1.624	3.700	6.007	2.372	3.852	23.382	0.562	9.260	0.143	0.149	19.902	0.793	20.902	2.490	30.232	0.000	30.543	0.008	0.000	0.000	0.000	0.000	0.000	0.000	1.502	15.018	15.018
96	2.100	6.890	-2.100	-6.890	9.471	0.059	56.160	0.623	6	5	4	4	5	114.551	0.406	0.406	0.000	0.000	1.605	3.629	5.823	2.369	3.802	22.361	0.651	9.065	0.185	0.193	18.037	0.739	19.037	2.528	31.941	0.000	30.394	0.006	0.000	0.000	0.000	0.000	0.000	0.000	1.456	14.559	14.559
97	2.150	7.054	-2.150	-7.054	15.911	0.089	51.440	0.559	6	5	5	5	5	114.551	0.415	0.415	0.000	0.000	1.586	6.097	9.672	3.594	5.702	37.359	0.574	15.496	0.101	0.104	33.488	1.370	34.488	2.305	22.702	0.000	32.818	-0.040	0.000	0.000	0.000	0.000	0.000	0.000	2.418	24.181	24.181
98	2.200	7.218	-2.200	-7.218	24.058	0.357	-0.360	1.484	6	5	7	6	5	114.551	0.424	0.424	0.000	0.000	1.569	9.219	14.462	5.591	8.770	55.714	1.511	23.634	-0.000	-0.000	55.741	2.306	56.741	2.369	25.170	38.114	34.740	-0.170	3.450	83.036	0.000	0.000	0.000	0.000	3.615	36.154	36.154
99	2.250	7.382	-2.250	-7.382	17.666	0.434	0.980	2.457	5	5	6	6	4	114.551	0.434	0.434	0.000	0.000	1.552	8.462	13.130	4.541	7.720	39.744	2.518	17.233	0.002	0.002	39.674	1.689	40.674	2.583	34.538	0.000	33.212	-0.193	0.000	0.000	0.000	0.000	0.000	0.000	2.626	26.260	28.771
100	2.300	7.546	-2.300	-7.546	20.970	0.341	9.610	1.626	6	5	6	6	5	114.551	0.443	0.443	0.000	0.000	1.535	8.036	12.335	5.055	7.760	46.338	1.661	20.527	0.014	0.015	45.661	1.980	46.661	2.449	28.466	33.555	33.980	-0.159	3.701	77.638	0.000	0.000	0.000	0.000	3.084	30.838	30.838
101	2.350	7.710	-2.350	-7.710	48.370	0.361	6.340	0.746	8	6	8	6	6	120.915	0.453	0.453	0.000	0.000	1.519	11.585	17.592	9.494	14.418	105.862	0.753	47.917	0.004	0.004	105.425	4.615	106.425	1.959	11.856	57.202	37.921	-0.167	2.477	119.884	0.000	0.000	0.000	0.000	7.037	70.369	70.369
102	2.400	7.874	-2.400	-7.874	58.332	0.508	0.300	0.871	8	6	8	6	6	120.915	0.463	0.463	0.000	0.000	1.502	13.970	20.987	11.347	17.046	125.109	0.878	57.869	0.000	0.000	125.088	5.587	126.088	1.935	11.250	62.260	38.764	-0.196	2.293	133.814	0.000	0.000	0.000	0.000	8.395	83.948	83.948
103	2.450	8.038	-2.450	-8.038	59.858	0.821	1.300	1.372	7	6	8	6	5	117.733	0.473	0.471	0.001	0.039	1.489	19.115	28.453	12.189	18.144	126.055	1.382	59.386	0.001	0.001	125.972	5.731	126.972	2.054	14.456	62.738	38.844	-0.243	2.278	136.404	0.000	0.000	0.000	0.000	8.536	85.358	85.358
104	2.500	8.202	-2.500	-8.202	59.078	1.198	1.320	2.028	7	5	8	6	5	117.733	0.482	0.476	0.006	0.204	1.481	18.866	27.948	12.635	18.718	123.193	2.044	58.596	0.001	0.001	123.120	5.656	124.120	2.176	18.195	62.224	38.758	-0.290	2.294	135.594	0.000	0.000	0.000	0.000	8.384	83.843	83.843
105	2.550	8.366	-2.550	-8.366	61.207	1.733	1.170	2.831	6	5	8	6	6	114.551	0.492	0.480	0.011	0.368	1.475	23.455	34.586	13.626	20.092	126.478	2.854	60.716	0.000	0.000	126.426	5.860	127.426	2.271	21.465	63.107	38.905	-0.354	2.266	138.774	0.000	0.000	0.000	0.000	8.647	86.465	86.465
106	2.600	8.530	-2.600	-8.530	72.272	2.209	-2.820	3.056	6	8	8	6	8	114.551	0.501	0.485	0.017	0.532	1.468	27.695	40.658	0.000	0.000	148.189	3.078	71.771	-0.001	-0.001	148.405	6.932	149.405	2.249	0.000	67.743	39.678	-0.393	2.139	154.665	0.000	0.000	0.000	0.000	10.165	101.645	101.645
107	2.650	8.694	-2.650	-8.694	83.402	2.925	-4.540	3.507	6	8	9	6	8	114.551	0.511	0.489	0.022	0.696	1.462	31.960	46.713	0.000	0.000	169.651	3.529	82.891	-0.002	-0.002	169.986	8.003	170.986	2.257	0.000	71.723	40.341	-0.453	2.050	171.011	0.000	0.000	0.000	0.000	11.678	116.783	116.783
108	2.700	8.858	-2.700	-8.858	88.869	3.318	-8.180	3.734	6	8	9	7	8	114.551	0.520	0.493	0.027	0.860	1.455	34.055	49.559	0.000	0.000	179.253	3.756	88.349	-0.003	-0.003	179.826	8.538	180.826	2.262	0.000	73.418	40.624	-0.485	2.015	179.112	0.000	0.000	0.000	0.000	12.390	123.898	123.898
109	2.750	9.022	-2.750	-9.022	92.102	3.418	-10.880	3.711	6	8	9	7	8	114.551	0.529	0.497	0.032	1.024	1.449	35.294	51.141	0.000	0.000	184.197	3.733	91.573	-0.004	-0.004	184.944	8.856	185.944	2.252	0.000	74.318	40.774	-0.487	1.997	183.961	0.000	0.000	0.000	0.000	12.785	127.853	127.853
110	2.800	9.186	-2.800	-9.186	101.479	3.248	-8.120	3.201	6	8	9	7	8	114.551	0.539	0.502	0.037	1.188	1.443	38.887	56.107	0.000	0.000	201.309	3.218	100.941	-0.003	-0.003	201.888	9.746	202.888	2.176	0.000	76.975	41.217	-0.446	1.945	197.476	0.000	0.000	0.000	0.000	14.027	140.268	140.268
111	2.850	9.350	-2.850	-9.350	107.967	3.278	-10.060	3.036	6	8	9	7	8	114.551	0.548	0.506	0.042	1.353	1.437	41.373	59.441	0.000	0.000	212.418	3.052	107.419	-0.003	-0.003	213.123	10.373	214.123	2.142	0.000	78.629	41.492	-0.437	1.916	206.956	0.000	0.000	0.000	0.000	14.860	148.604	148.604
112	2.900	9.514	-2.900	-9.514	97.322	3.545	-9.300	3.643	6	8	9	7	8	114.551	0.558	0.510	0.047	1.517	1.431	37.294	53.356	0.000	0.000	189.745	3.664	96.765	-0.003	-0.003	190.407	9.351	191.407	2.234	0.000	75.533	40.976	-0.483	1.973	192.057	0.000	0.000	0.000	0.000	13.339	133.389	133.389
113	2.950	9.678	-2.950	-9.678	91.800	4.035	-6.450	4.395	11	9	9	7	8	130.461	0.568	0.515	0.052	1.681	1.424	87.944	125.217	0.000	0.000	177.185	4.423	91.232	-0.003	-0.003	177.678	8.814	178.678	2.316	0.000	73.721	40.674	-0.566	2.008	184.456	0.000	0.000	0.000	0.000	12.522	125.217	125.217
114	3.000	9.842	-3.000	-9.842	94.667	4.567	-5.270	4.824	11	9	9	7	8	130.461	0.578	0.521	0.058	1.845	1.416	90.691	128.434	0.000	0.000	180.774	4.854	94.089	-0.002	-0.002	181.201	9.085	182.201	2.342	0.000	74.448	40.795	-0.635	1.994	188.839	0.000	0.000	0.000	0.000	12.843	128.434	128.434
115	3.050	10.006	-3.050	-10.006	90.737	4.809	-11.750	5.300	11	9	9	6	8	130.461	0.589	0.526	0.063	2.009	1.409	86.926	122.447	0.000	0.000	171.365	5.335	90.148	-0.005	-0.005	172.182	8.728	173.182	2.388	0.000	73.080	40.567	-0.716	2.021	183.499	0.000	0.000	0.000	0.000	12.245	122.447	122.447
116	3.100	10.170	-3.100	-10.170	90.603	4.760	-10.800	5.254	11	9	9	6	8	130.461	0.600	0.532	0.068	2.173	1.401	86.797	121.623	0.000	0.000	169.295	5.289	90.003	-0.004	-0.004	170.056	8.712	171.056	2.386	0.000	72.886	40.535	-0.704	2.025	183.587	0.000	0.000	0.000	0.000	12.162	121.623	121.623
117	3.150	10.335	-3.150	-10.335	97.500	4.376	-9.680	4.488	11	9	9	7	8	130.461	0.610	0.537	0.073	2.337	1.394	93.405	130.200	0.000	0.000	180.355	4.516	96.889	-0.004	-0.004	181.053	9.369	182.053	2.313	0.000	74.840	40.861	-0.582	1.986	193.733	0.000	0.000	0.000	0.000	13.020	130.200	130.200
118	3.200	10.499	-3.200	-10.499	107.314	3.892	-7.390	3.627	6	8	9	7	8	114.551	0.620	0.542	0.078	2.501	1.388	41.123	57.061	0.000	0.000	196.800	3.648	106.694	-0.003	-0.003	197.369	10.303	198.369	2.215	0.000	77.458	41.297	-0.487	1.936	207.880	0.000	0.000	0.000	0.000	14.265	142.653	142.653
119	3.250	10.663	-3.250	-10.663	115.062	3.657	-7.730	3.178	6	8	9	7	8	114.551	0.630	0.547	0.083	2.666	1.382	44.092	60.941	0.000	0.000	209.423	3.196	114.432	-0.003	-0.003	210.016	11.046	211.016	2.152	0.000	79.344	41.611	-0.449	1.905	219.268	0.000	0.000	0.000	0.000	15.235	152.353	152.353
120	3.300	10.827	-3.300	-10.827	124.562	3.465	-2.880	2.782	7	8	9	7	8	117.733	0.639	0.551	0.088	2.830	1.377	39.777	54.757	0.000	0.000	224.978	2.796	123.923	-0.001	-0.001	225.301	11.942	226.301	2.086	0.000	81.503	41.971	-0.420	1.881	234.383	0.000	0.000	0.000	0.000	16.427	164.272	164.272
121	3.350	10.991	-3.350	-10.991	148.145	3.236	-7.260	2.184	7	6	9	7	8	117.733	0.649	0.556	0.093	2.994	1.371	47.308	64.858	29.066	39.849	265.587	2.194	147.496	-0.002	-0.002	266.163	14.214	267.163	1.958	11.828	86.355	42.780	-0.387	1.980	293.482	0.000	0.000	0.000	0.000	19.457	194.573	194.573
122	3.400	11.155	-3.400	-11.155	133.466	3.067	-11.860	2.298	7	6	9	7	8	117.733	0.659	0.560	0.099	3.158	1.365	42.620	58.194	26.653	36.392	237.202	2.309	132.808	-0.004	-0.004	238.039	12.822	239.039	2.004	13.053	83.247	42.262	-0.384	1.881	251.198	0.000	0.000	0.000	0.000	17.458	174.582	174.582
123	3.450	11.319	-3.450	-11.319	124.059	3.145	-9.710	2.535	7	8	9	7	8	117.733	0.668	0.565	0.104	3.322	1.360	39.616	53.875	0.000	0.000	218.613	2.549	123.391	-0.003	-0.003	219.333	11.914	220.333	2.058	0.000	81.037	41.894	-0.395	1.884	233.868	0.000	0.000	0.000	0.000	16.162	161.625	161.625
124	3.500	11.483	-3.500	-11.483	120.459	3.596	-6.570	2.985	6	8	9	7	8	114.551	0.678	0.569	0.109	3.486	1.355	46.160	62.530	0.000	0.000	210.574	3.002	119.781	-0.003	-0.003	211.125	11.560	212.125	2.124	0.000	80.081	41.734	-0.431	1.895	228.325	0.000	0.000	0.000	0.000	15.633	156.325	156.325
125	3.550	11.647	-3.550	-11.647	102.424	3.820	-5.750	3.730	6	8	9	7	8	114.551	0.687	0.573	0.114	3.650	1.350	39.249	52.970	0.000	0.000	177.518	3.755	101.737	-0.003	-0.003	178.030	9.829	179.030	2.244	0.000	75.325	40.942	-0.483	1.977	202.541	0.000	0.000	0.000	0.000	13.242	132.424	132.424
126	3.600	11.811	-3.600	-11.811	83.031	3.693	-6.300	4.448	11	9	9	6	8	130.461	0.697	0.578	0.119	3.815	1.344	79.543	106.892	0.000	0.000	142.437	4.485	82.334	-0.004	-0.004	142.983	7.973	143.983	2.362	0.000	69.186	39.918	-0.538	2.105	174.861	0.000	0.000	0.000	0.000	10.689	106.892	106.892
127	3.650	11.975	-3.650	-11.975	70.049	3.628	-1.750	5.179	11	9	8	6	8	130.461	0.708	0.584	0.124	3.979	1.337	67.107	89.747	0.000	0.000	118.814	5.232	69.341	-0.003	-0.003	119.120	6.716	120.120	2.462	0.000	64.175	39.083	-0.621	2.234	156.573	0.000	0.000	0.000	0.000	8.975	89.747	89.747
128	3.700	12.139	-3.700	-12.139	65.988	3.397	6.100	5.148	11	9	8	6	8	130.461	0.719	0.589	0.129	4.143	1.331	63.217	84.143	0.000	0.000	110.778	5.205	65.270	0.001	0.001	110.674	6.303	111.674	2.477	0.000	62.327	38.775	-0.601	2.291	151.236	0.000	0.000	0.000	0.000	8.414	84.143	84.143
129	3.750	12.303	-3.750	-12.303	69.043	3.035	95.050	4.396	5	9	8	6	8	114.551	0.729	0.594	0.134	4.307	1.326	33.072	43.837	0.000	0.000	114.985	4.443	68.315	0.041	0.041	110.217	6.330	111.217	2.413	0.000	63.505	38.972	-0.489	2.254	155.701	0.000	0.000	0.000	0.000	8.767	87.673	87.673
130	3.800	12.467	-3.800	-12.467	73.706	2.870	7.420	3.894	5	8	8	6	8	114.551	0.738	0.599	0.140	4.471	1.321	35.305	46.630	0.000	0.000	121.940	3.933	72.968	0.001	0.001	121.786	7.039	122.786	2.355	0.000	65.275	39.267	-0.447	2.203	162.447	0.000	0.000	0.000	0.000	9.326	93.260	93.260
131	3.850	12.631	-3.850	-12.631	100.670	2.019	0.020	2.006	7	6	9	6	8	117.733	0.748	0.603	0.145	4.635	1.316	32.147	42.303	20.452	26.913	165.764	2.021	99.923	-0.001	-0.001	166.003	9.644	167.003	2.048	14.284	74.106	40.738	-0.321	2.001	201.501	0.000	0.000	0.000	0.000	12.691	126.910	126.910
132	3.900	12.795	-3.900	-12.795	122.574	1.575	-8.930	1.285	8	6	9	7	5	120.915	0.757	0.608	0.150	4.799	1.311	29.357	38.482	23.099	30.280	200.533	1.293	121.817	-0.003	-0.004	201.238	11.769	202.238	1.849	9.197	79.639	41.661	-0.281	1.901	233.061	0.000	0.000	0.000	0.000	15.393	153.929	153.929
133	3.950	12.959	-3.950	-12.959	124.207	1.012	-10.070	0.815	9	6	9	7	6	124.097	0.768	0.613	0.155	4.964	1.306	23.798	31.070	22.274	29.080	201.570	0.820	123.440	-0.004	-0.004	202.336	11.929	203.336	1.709	6.286	79.902	41.704	-0.234	1.897	235.718	0.000	0.000	0.000	0.000	15.535	155.351	155.351
134	4.000	13.123	-4.000	-13.123	133.628	1.079	-8.380	0.807	9	6	9	7	6	124.097	0.778	0.618	0.160	5.128	1.300	25.603	33.290	23.757	30.889	215.159	0.812	132.850	-0.003	-0.003	215.842	12.827	216.842	1.684	5.818	81.880	42.034	-0.240	1.879	251.190	0.000	0.000	0.000	0.000	16.645	166.448	166.448
135	4.050	13.287	-4.050	-13.287	120.430	1.053	-6.440	0.874	9	6	9	7	6	124.097	0.788	0.623	0.165	5.292	1.295	23.074	29.880	21.847	28.290	192.194	0.880	119.642	-0.003	-0.003	192.782	11.556	193.782	1.742	6.930	78.782	41.518	-0.237	1.914	230.546	0.000	0.000	0.000	0.000	14.940	149.398	149.398
136	4.100	13.451	-4.100	-13.451	104.894	1.215	-4.140	1.158	8	6	9	6	5	120.915	0.798	0.628	0.170	5.456	1.290	25.122	32.403	19.925	25.699	165.908	1.167	104.097	-0.003	-0.003	166.385	10.061	167.385	1.871	9.696	74.710	40.839	-0.251	1.989	208.694	0.000	0.000	0.000	0.000	12.961	129.613	129.613
137	4.150	13.615	-4.150	-13.615	98.725	1.644	20.080	1.665	7	6	9	6	5	117.733	0.808	0.632	0.175	5.620	1.285	31.526	40.513	19.700	25.315	154.909	1.679	97.918	0.005	0.005	154.194	9.398	155.194	2.002	12.997	72.867	40.532	-0.286	2.026	200.086	0.000	0.000	0.000	0.000	12.154	121.540	121.540
138	4.200	13.779	-4.200	-13.779	105.912	2.024	32.340	1.911	7	6	9	6	8	117.733	0.817	0.637	0.181	5.784	1.280	33.821	43.307	21.330	27.313	165.078	1.926	105.095	0.008	0.008	163.776	10.050	164.776	2.026	13.655	74.778	40.850	-0.312	1.987	210.576	0.000	0.000	0.000	0.000	12.992	129.922	129.922
139	4.250	13.943	-4.250	-13.943	113.173	2.371	5.240	2.095	7	6	9	7	8	117.733	0.827	0.641	0.186	5.948	1.276	36.140	46.112	22.897	29.216	175.220	2.110	112.346	-0.000	-0.000	175.254	10.826	176.254	2.038	13.986	76.577	41.150	-0.334	1.953	221.072	0.000	0.000	0.000	0.000	13.834	138.337	138.337
140	4.300	14.107	-4.300	-14.107	141.420	2.079	15.960	1.470	8	6	9	7	8	120.915	0.837	0.646	0.191	6.113	1.271	33.870	43.060	26.745	34.001	217.676	1.479	140.583	0.002	0.002	217.199	13.500	218.199	1.859	9.418	82.860	42.197	-0.305	1.879	265.834	0.000	0.000	0.000	0.000	17.224	172.239	172.239
141	4.350	14.271	-4.350	-14.271	172.009	1.605	-9.780	0.933	9	6	9	7	8	124.097	0.847	0.651	0.196	6.277	1.266	32.957	41.740	30.298	38.373	263.017	0.938	171.162	-0.003	-0.003	263.787	16.508	264.787	1.657	5.328	88.364	43.115	-0.272	0.000	0.000	0.000	0.000	0.000	0.000	20.870	208.700	208.700
142	4.400	14.436	-4.400	-14.436	202.251	1.328	-11.050	0.657	9	6	9	7	8	124.097	0.857	0.656	0.201	6.441	1.262	38.751	48.889	33.825	42.674	307.087	0.659	201.394	-0.003	-0.003	307.919	19.409	308.919	1.500	2.837	92.895	43.870	-0.252	0.000	0.000	0.000	0.000	0.000	0.000	24.444	244.445	244.445
143	4.450	14.600	-4.450	-14.600	229.939	1.485	-6.600	0.646	9	6	9	7	8	124.097	0.867	0.661	0.206	6.605	1.257	44.056	55.369	37.921	47.658	346.617	0.648	229.072	-0.002	-0.002	347.240	22.048	348.240	1.456	2.238	0.000	44.465	-0.262	0.000	0.000	0.000	0.000	0.000	0.000	27.684	276.843	276.843
144	4.500	14.764	-4.500	-14.764	246.966	1.821	-0.610	0.737	9	6	10	7	8	124.097	0.877	0.666	0.211	6.769	1.252	47.319	59.243	41.006	51.339	369.538	0.740	246.089	-0.001	-0.001	369.884	23.661	370.884	1.478	2.524	0.000	44.788	-0.280	0.000	0.000	0.000	0.000	0.000	0.000	29.621	296.213	296.213
145	4.550	14.928	-4.550	-14.928	244.162	2.125	1.990	0.870	9	6	9	7	8	124.097	0.888	0.671	0.216	6.933	1.247	46.782	58.349	41.310	51.525	362.559	0.873	243.275	-0.001	-0.001	362.789	23.385	363.789	1.536	3.356	0.000	44.715	-0.295	0.000	0.000	0.000	0.000	0.000	0.000	29.174	291.744	291.744
146	4.600	15.092	-4.600	-15.092	235.260	2.176	4.790	0.925	9	6	9	7	8	124.097	0.898	0.676	0.221	7.097	1.243	45.076	56.011	40.220	49.977	346.663	0.928	234.362	-0.000	-0.000	346.770	22.524	347.770	1.567	3.840	0.000	44.520	-0.297	0.000	0.000	0.000	0.000	0.000	0.000	28.005	280.053	280.053
147	4.650	15.256	-4.650	-15.256	224.125	2.041	7.270	0.911	9	6	9	7	8	124.097	0.908	0.681	0.227	7.261	1.238	42.942	53.161	38.442	47.590	327.727	0.914	223.218	0.000	0.000	327.726	21.449	328.726	1.577	3.996	0.000	44.270	-0.290	0.000	0.000	0.000	0.000	0.000	0.000	26.581	265.806	265.806
148	4.700	15.420	-4.700	-15.420	217.749	1.965	7.890	0.902	9	6	9	7	8	124.097	0.918	0.686	0.232	7.426	1.233	41.721	51.458	37.429	46.165	316.004	0.906	216.831	0.000	0.000	315.983	20.837	316.983	1.584	4.100	94.363	44.115	-0.286	0.000	0.000	0.000	0.000	0.000	0.000	25.729	257.291	257.291
149	4.750	15.584	-4.750	-15.584	208.658	2.044	7.610	0.980	9	6	9	7	8	124.097	0.928	0.692	0.237	7.590	1.229	39.979	49.129	36.349	44.668	300.524	0.984	207.730	0.000	0.000	300.523	19.967	301.523	1.624	4.760	93.036	43.893	-0.290	0.000	0.000	0.000	0.000	0.000	0.000	24.564	245.645	245.645
150	4.800	15.748	-4.800	-15.748	199.211	1.827	8.230	0.917	9	6	9	7	8	124.097	0.939	0.697	0.242	7.754	1.224	38.169	46.734	34.628	42.399	284.760	0.921	198.273	0.000	0.000	284.739	19.060	285.739	1.617	4.651	91.603	43.655	-0.278	0.000	0.000	0.000	0.000	0.000	0.000	23.367	233.671	233.671
151	4.850	15.912	-4.850	-15.912	185.535	1.528	-0.870	0.824	9	6	9	7	6	124.097	0.949	0.702	0.247	7.918	1.220	35.548	43.368	32.132	39.200	263.191	0.828	184.586	-0.001	-0.001	263.582	17.777	264.582	1.606	4.467	89.461	43.298	-0.260	0.000	0.000	0.000	0.000	0.000	0.000	21.684	216.842	216.842
152	4.900	16.076	-4.900	-16.076	177.761	1.282	-3.020	0.721	9	6	9	7	6	124.097	0.959	0.707	0.252	8.082	1.216	34.059	41.402	30.525	37.106	250.288	0.725	176.803	-0.002	-0.002	250.778	17.039	251.778	1.581	4.052	88.131	43.076	-0.243	0.000	0.000	0.000	0.000	0.000	0.000	20.701	207.012	207.012
153	4.950	16.240	-4.950	-16.240	184.912	1.105	1.890	0.598	9	6	9	7	6	124.097	0.969	0.712	0.257	8.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
187	6.650	21.817	-6.650	-21.817	270.983	1.685	-2.670	0.622	9	6	10	7	8	124.097	1.316	0.884	0.431	13.827	1.087	51.920	56.430	44.447	48.308	305.170	0.625	269.668	-0.002	-0.002	305.752	25.968	306.752	1.439	2.013	0.000	44.555	-0.247	0.000	0.000	0.000	0.000	0.000	0.000	28.215	282.151	282.151
188	6.700	21.981	-6.700	-21.981	267.069	1.576	-3.380	0.590	9	6	10	7	6	124.097	1.326	0.889	0.437	13.991	1.084	51.170	55.457	43.660	47.317	299.017	0.593	265.744	-0.002	-0.002	299.627	25.595	300.627	1.429	1.879	0.000	44.472	-0.240	0.000	0.000	0.000	0.000	0.000	0.000	27.728	277.283	277.283
189	6.750	22.145	-6.750	-22.145	261.534	1.445	-4.170	0.553	9	6	10	7	6	124.097	1.336	0.894	0.442	14.155	1.081	50.110	54.153	42.593	46.029	291.121	0.555	260.199	-0.002	-0.002	291.761	25.067	292.761	1.417	1.727	0.000	44.359	-0.232	0.000	0.000	0.000	0.000	0.000	0.000	27.077	270.767	270.767
190	6.800	22.309	-6.800	-22.309	262.160	1.456	-4.830	0.555	9	6	10	7	6	124.097	1.346	0.899	0.447	14.319	1.078	50.230	54.130	42.717	46.034	290.168	0.558	260.814	-0.002	-0.002	290.833	25.129	291.833	1.418	1.748	0.000	44.356	-0.232	0.000	0.000	0.000	0.000	0.000	0.000	27.065	270.650	270.650
191	6.850	22.473	-6.850	-22.473	264.588	1.343	-5.150	0.508	10	6	10	7	6	127.279	1.356	0.904	0.452	14.484	1.075	42.246	45.395	42.731	45.917	291.177	0.510	263.232	-0.002	-0.002	291.855	25.363	292.855	1.390	1.401	0.000	44.387	-0.224	0.000	0.000	0.000	0.000	0.000	0.000	27.237	272.372	272.372
192	6.900	22.638	-6.900	-22.638	253.857	1.213	-5.330	0.478	10	6	10	7	6	127.279	1.367	0.910	0.457	14.648	1.071	40.532	43.427	40.963	43.888	277.662	0.480	252.490	-0.002	-0.002	278.347	24.335	279.347	1.387	1.369	94.725	44.175	-0.215	0.000	0.000	0.000	0.000	0.000	0.000	26.056	260.560	260.560
193	6.950	22.802	-6.950	-22.802	248.762	1.141	-6.120	0.459	10	6	10	7	6	127.279	1.377	0.915	0.462	14.812	1.068	39.719	42.431	40.095	42.833	270.466	0.461	247.385	-0.003	-0.003	271.180	23.850	272.180	1.383	1.325	94.061	44.064	-0.209	0.000	0.000	0.000	0.000	0.000	0.000	25.459	254.587	254.587
194	7.000	22.966	-7.000	-22.966	240.469	1.170	-3.430	0.487	9	6	9	7	6	124.097	1.388	0.920	0.467	14.976	1.065	46.074	49.081	39.108	41.660	259.913	0.489	239.082	-0.002	-0.002	260.537	23.047	261.537	1.412	1.672	93.008	43.889	-0.210	0.000	0.000	0.000	0.000	0.000	0.000	24.540	245.404	245.404
195	7.050	23.130	-7.050	-23.130	224.905	1.261	-4.040	0.561	9	6	9	7	6	124.097	1.398	0.925	0.472	15.140	1.062	43.092	45.779	37.316	39.643	241.654	0.564	223.508	-0.003	-0.003	242.301	21.558	243.301	1.475	2.493	91.011	43.556	-0.216	0.000	0.000	0.000	0.000	0.000	0.000	22.889	228.893	228.893
196	7.100	23.294	-7.100	-23.294	229.905	1.301	2.430	0.566	9	6	9	7	6	124.097	1.408	0.930	0.478	15.304	1.059	44.050	46.669	38.101	40.367	245.705	0.569	228.498	-0.002	-0.002	246.137	22.018	247.137	1.472	2.444	91.563	43.648	-0.219	0.000	0.000	0.000	0.000	0.000	0.000	23.334	233.345	233.345
197	7.150	23.458	-7.150	-23.458	251.661	1.484	6.630	0.590	9	6	10	7	6	124.097	1.418	0.935	0.483	15.468	1.057	48.218	50.947	41.491	43.839	267.634	0.593	250.244	-0.001	-0.001	267.928	24.089	268.928	1.455	2.225	94.077	44.067	-0.230	0.000	0.000	0.000	0.000	0.000	0.000	25.473	254.735	254.735
198	7.200	23.622	-7.200	-23.622	292.091	1.994	9.760	0.683	9	6	10	7	8	124.097	1.428	0.940	0.488	15.633	1.054	55.965	58.972	48.148	50.736	309.189	0.686	290.663	-0.001	-0.001	309.384	27.953	310.384	1.455	2.218	0.000	44.766	-0.257	0.000	0.000	0.000	0.000	0.000	0.000	29.486	294.862	294.862
199	7.250	23.786	-7.250	-23.786	323.022	2.476	13.130	0.767	9	6	10	7	8	124.097	1.438	0.946	0.493	15.797	1.051	61.891	65.042	53.393	56.112	340.251	0.770	321.584	-0.000	-0.000	340.338	30.906	341.338	1.463	2.333	0.000	45.234	-0.276	0.000	0.000	0.000	0.000	0.000	0.000	32.521	325.212	325.212
200	7.300	23.950	-7.300	-23.950	326.428	2.667	15.770	0.817	9	6	10	7	8	124.097	1.449	0.951	0.498	15.961	1.048	62.544	65.553	54.283	56.895	342.014	0.821	324.980	-0.000	-0.000	342.020	31.225	343.020	1.482	2.589	0.000	45.271	-0.283	0.000	0.000	0.000	0.000	0.000	0.000	32.777	327.766	327.766
201	7.350	24.114	-7.350	-24.114	330.306	2.991	16.960	0.906	9	6	10	7	8	124.097	1.459	0.956	0.503	16.125	1.045	63.287	66.156	55.496	58.012	344.252	0.910	328.848	0.000	0.000	344.224	31.593	345.224	1.514	3.041	0.000	45.315	-0.294	0.000	0.000	0.000	0.000	0.000	0.000	33.078	330.780	330.780
202	7.400	24.278	-7.400	-24.278	312.676	3.122	7.300	0.998	9	6	10	7	8	124.097	1.469	0.961	0.508	16.289	1.043	59.909	62.460	53.378	55.652	324.069	1.003	311.207	-0.001	-0.001	324.361	29.932	325.361	1.563	3.773	0.000	45.040	-0.299	0.000	0.000	0.000	0.000	0.000	0.000	31.230	312.299	312.299
203	7.450	24.442	-7.450	-24.442	290.587	2.978	15.540	1.025	9	6	10	7	8	124.097	1.479	0.966	0.513	16.453	1.040	55.676	57.895	50.097	52.093	299.480	1.030	289.108	-0.000	-0.000	299.509	27.792	300.509	1.593	4.243	0.000	44.678	-0.294	0.000	0.000	0.000	0.000	0.000	0.000	28.948	289.476	289.476
204	7.500	24.606	-7.500	-24.606	264.161	2.788	17.740	1.055	9	6	10	7	8	124.097	1.489	0.971	0.519	16.617	1.037	50.613	52.493	46.111	47.824	270.677	1.061	262.672	0.000	0.000	270.641	25.254	271.641	1.630	4.862	94.934	44.210	-0.288	0.000	0.000	0.000	0.000	0.000	0.000	26.246	262.464	262.464
205	7.550	24.770	-7.550	-24.770	257.649	2.287	19.140	0.888	9	6	10	7	8	124.097	1.500	0.976	0.524	16.782	1.034	49.366	51.066	44.250	45.774	262.588	0.893	256.151	0.000	0.000	262.513	24.626	263.513	1.581	4.059	94.144	44.078	-0.267	0.000	0.000	0.000	0.000	0.000	0.000	25.533	255.330	255.330
206	7.600	24.934	-7.600	-24.934	257.060	2.078	20.750	0.808	9	6	10	7	6	124.097	1.510	0.981	0.529	16.946	1.032	49.253	50.818	43.737	45.127	260.622	0.813	255.550	0.000	0.000	260.501	24.564	261.501	1.553	3.616	94.004	44.055	-0.257	0.000	0.000	0.000	0.000	0.000	0.000	25.409	254.088	254.088
207	7.650	25.098	-7.650	-25.098	256.702	2.040	21.090	0.795	9	6	10	7	6	124.097	1.520	0.986	0.534	17.110	1.029	49.184	50.616	43.617	44.887	258.911	0.799	255.182	0.000	0.000	258.785	24.529	259.785	1.549	3.552	93.891	44.036	-0.255	0.000	0.000	0.000	0.000	0.000	0.000	25.308	253.082	253.082
208	7.700	25.262	-7.700	-25.262	258.542	2.034	21.160	0.787	9	6	10	7	6	124.097	1.530	0.991	0.539	17.274	1.026	49.537	50.849	43.864	45.026	259.437	0.791	257.013	0.000	0.000	259.314	24.705	260.314	1.544	3.483	94.022	44.058	-0.254	0.000	0.000	0.000	0.000	0.000	0.000	25.425	254.245	254.245
209	7.750	25.426	-7.750	-25.426	265.370	2.041	22.470	0.769	9	6	10	7	6	124.097	1.540	0.996	0.544	17.438	1.024	50.845	52.059	44.814	45.885	264.967	0.774	263.831	0.001	0.001	264.808	25.355	265.808	1.530	3.271	94.696	44.170	-0.254	0.000	0.000	0.000	0.000	0.000	0.000	26.030	260.296	260.296
210	7.800	25.590	-7.800	-25.590	249.554	1.942	21.490	0.778	9	6	10	7	6	124.097	1.550	1.001	0.549	17.602	1.021	47.815	48.833	42.462	43.366	247.813	0.783	248.004	0.000	0.000	247.692	23.843	248.692	1.553	3.618	92.862	43.864	-0.249	0.000	0.000	0.000	0.000	0.000	0.000	24.416	244.163	244.163
211	7.850	25.754	-7.850	-25.754	243.409	1.890	25.540	0.776	9	6	9	7	6	124.097	1.561	1.006	0.554	17.766	1.019	46.637	47.510	41.522	42.299	240.448	0.781	241.849	0.001	0.001	240.207	23.242	241.207	1.561	3.737	92.075	43.733	-0.246	0.000	0.000	0.000	0.000	0.000	0.000	23.755	237.552	237.552
212	7.900	25.918	-7.900	-25.918	246.917	1.661	28.300	0.673	9	6	9	7	6	124.097	1.571	1.011	0.560	17.930	1.016	47.309	48.074	41.472	42.142	242.705	0.677	245.346	0.001	0.001	242.384	23.570	243.384	1.513	3.026	92.414	43.790	-0.233	0.000	0.000	0.000	0.000	0.000	0.000	24.037	240.371	240.371
213	7.950	26.082	-7.950	-26.082	257.150	1.478	28.770	0.575	9	6	10	7	6	124.097	1.581	1.016	0.565	18.095	1.014	49.270	49.942	42.381	42.959	251.559	0.578	255.569	0.001	0.001	251.230	24.549	252.230	1.454	2.211	93.506	43.972	-0.222	0.000	0.000	0.000	0.000	0.000	0.000	24.971	249.709	249.709
214	8.000	26.246	-8.000	-26.246	273.144	1.203	18.210	0.440	10	6	10	7	6	127.279	1.591	1.022	0.570	18.259	1.011	43.612	44.094	43.698	44.182	265.934	0.443	271.553	-0.000	-0.000	265.935	26.113	266.935	1.359	1.046	0.000	44.248	-0.203	0.000	0.000	0.000	0.000	0.000	0.000	26.457	264.566	264.566
215	8.050	26.410	-8.050	-26.410	259.191	1.322	9.770	0.510	10	6	10	7	6	127.279	1.602	1.027	0.575	18.423	1.008	41.384	41.733	42.242	42.599	250.953	0.513	257.590	-0.001	-0.001	251.215	24.801	252.215	1.419	1.756	93.585	43.985	-0.211	0.000	0.000	0.000	0.000	0.000	0.000	25.040	250.400	250.400
216	8.100	26.574	-8.100	-26.574	271.943	1.195	3.650	0.439	10	6	10	7	6	127.279	1.612	1.032	0.580	18.587	1.006	43.420	43.674	43.541	43.795	262.008	0.442	270.331	-0.002	-0.002	262.460	26.041	263.460	1.362	1.076	94.888	44.202	-0.202	0.000	0.000	0.000	0.000	0.000	0.000	26.204	262.041	262.041
217	8.150	26.739	-8.150	-26.739	289.340	1.168	3.250	0.404	10	6	10	7	6	127.279	1.623	1.038	0.585	18.751	1.003	46.198	46.348	45.714	45.863	277.430	0.406	287.718	-0.002	-0.002	277.896	27.709	278.896	1.319	0.599	0.000	44.486	-0.200	0.000	0.000	0.000	0.000	0.000	0.000	27.809	278.089	278.089
218	8.200	26.903	-8.200	-26.903	301.697	1.393	4.280	0.462	10	6	10	7	6	127.279	1.633	1.043	0.590	18.915	1.001	48.171	48.204	48.025	48.058	287.858	0.464	300.064	-0.002	-0.002	288.296	28.890	289.296	1.343	0.864	0.000	44.674	-0.215	0.000	0.000	0.000	0.000	0.000	0.000	28.922	289.225	289.225
219	8.250	27.067	-8.250	-27.067	299.320	1.779	8.070	0.594	10	6	10	7	6	127.279	1.644	1.048	0.595	19.079	0.998	47.791	47.703	48.817	48.726	284.119	0.598	297.678	-0.001	-0.001	284.446	28.651	285.446	1.421	1.784	0.000	44.624	-0.236	0.000	0.000	0.000	0.000	0.000	0.000	28.622	286.217	286.217
220	8.300	27.231	-8.300	-27.231	286.779	1.880	14.260	0.656	9	6	10	7	6	124.097	1.654	1.053	0.601	19.244	0.996	54.947	54.710	47.429	47.224	270.798	0.659	285.126	-0.001	-0.001	270.945	27.431	271.945	1.465	2.356	0.000	44.407	-0.241	0.000	0.000	0.000	0.000	0.000	0.000	27.355	273.549	273.549
221	8.350	27.395	-8.350	-27.395	283.277	1.739	15.510	0.614	10	6	10	7	6	127.279	1.664	1.059	0.606	19.408	0.993	45.230	44.924	46.619	46.304	266.151	0.618	281.613	-0.000	-0.000	266.265	27.092	267.265	1.450	2.151	0.000	44.337	-0.233	0.000	0.000	0.000	0.000	0.000	0.000	26.954	269.545	269.545
222	8.400	27.559	-8.400	-27.559	303.321	1.708	16.240	0.563	10	6	10	7	6	127.279	1.675	1.064	0.611	19.572	0.991	48.430	47.983	49.188	48.734	283.659	0.566	301.647	-0.000	-0.000	283.756	29.010	284.756	1.403	1.560	0.000	44.652	-0.231	0.000	0.000	0.000	0.000	0.000	0.000	28.790	287.895	287.895
223	8.450	27.723	-8.450	-27.723	309.456	1.905	17.050	0.616	10	6	10	7	6	127.279	1.685	1.069	0.616	19.736	0.988	49.410	48.831	50.527	49.935	287.978	0.619	307.772	-0.000	-0.000	288.056	29.595	289.056	1.425	1.829	0.000	44.735	-0.240	0.000	0.000	0.000	0.000	0.000	0.000	29.299	292.986	292.986
224	8.500	27.887	-8.500	-27.887	303.175	2.059	16.780	0.679	10	6	10	7	6	127.279	1.696	1.074	0.621	19.900	0.986	48.407	47.721	50.093	49.384	280.694	0.683	301.480	-0.000	-0.000	280.784	28.994	281.784	1.462	2.317	0.000	44.625	-0.247	0.000	0.000	0.000	0.000	0.000	0.000	28.633	286.327	286.327
225	8.550	28.051	-8.550	-28.051	317.218	2.083	20.480	0.657	10	6	10	7	8	127.279	1.706	1.080	0.626	20.064	0.983	50.649	49.809	52.024	51.161	292.311	0.660	315.513	0.000	0.000	292.299	30.328	293.299	1.439	2.008	0.000	44.830	-0.248	0.000	0.000	0.000	0.000	0.000	0.000	29.885	298.851	298.851
226	8.600	28.215	-8.600	-28.215	337.384	2.240	26.240	0.664	10	6	10	7	8	127.279	1.716	1.085	0.631	20.228	0.981	53.869	52.845	55.083	54.036	309.460	0.667	335.668	0.001	0.001	309.287	32.243	310.287	1.425	1.827	0.000	45.113	-0.254	0.000	0.000	0.000	0.000	0.000	0.000	31.707	317.069	317.069
227	8.650	28.379	-8.650	-28.379	359.113	2.808	27.760	0.782	10	6	10	7	8	127.279	1.727	1.090	0.636	20.393	0.979	57.338	56.111	59.300	58.031	327.876	0.786	357.387	0.001	0.001	327.664	34.320	328.664	1.460	2.292	0.000	45.399	-0.275	0.000	0.000	0.000	0.000	0.000	0.000	33.667	336.666	336.666
228	8.700	28.543	-8.700	-28.543	344.230	3.094	27.180	0.899	9	6	10	7	8	124.097	1.737	1.096	0.641	20.557	0.976	65.954	64.390	57.932	56.557	312.723	0.903	342.493	0.001	0.001	312.534	32.896	313.534	1.519	3.115	0.000	45.186	-0.285	0.000	0.000	0.000	0.000	0.000	0.000	32.195	321.948	321.948
229	8.750	28.707	-8.750	-28.707	306.247	2.957	26.680	0.966	9	6	10	7	8	124.097	1.747	1.101	0.647	20.721	0.974	58.677	57.153	52.515	51.151	276.754	0.971	304.500	0.001	0.001	276.585	29.259	277.585	1.577	3.985	0.000	44.616	-0.281	0.000	0.000	0.000	0.000	0.000	0.000	28.576	285.764	285.764
230	8.800	28.871	-8.800	-28.871	281.136	2.454	24.930	0.873	9	6	10	7	6	124.097	1.758	1.106	0.652	20.885	0.972	53.866	52.346	48.085	46.729	252.760	0.878	279.379	0.000	0.000	252.646	26.858	253.646	1.569	3.862	94.854	44.196	-0.262	0.000	0.000	0.000	0.000	0.000	0.000	26.173	261.732	261.732
231	8.850	29.035	-8.850	-29.035	263.936	2.004	24.970	0.759	9	6	10	7	6	124.097	1.768	1.111	0.657	21.049	0.970	50.570	49.032	44.781	43.419	236.110	0.764	262.169	0.000	0.000	235.999	25.210	236.999	1.544	3.485	92.979	43.884	-0.242	0.000	0.000	0.000	0.000	0.000	0.000	24.516	245.159	245.159
232	8.900	29.199	-8.900	-29.199	254.948	1.743	25.360	0.684	9	6	10	7	6	124.097	1.778	1.116	0.662	21.213	0.967	48.848	47.255	42.966	41.565	226.973	0.688	253.171	0.001	0.001	226.856	24.348	227.856	1.524	3.178	91.921	43.708	-0.229	0.000	0.000	0.000	0.000	0.000	0.000	23.627	236.273	236.273
233	8.950	29.363	-8.950	-29.363	258.009	1.782	25.410	0.691	9	6	10	7	6	124.097	1.788	1.121	0.667	21.377	0.965	49.434	47.714	43.483	41.969	228.670	0.695	256.221	0.000	0.000	228.558	24.641	229.558	1.524	3.179	92.198	43.754	-0.230	0.000	0.000	0.000	0.000	0.000	0.000	23.857	238.569	238.569
234	9.000	29.527	-9.000	-29.527	290.513	1.841	26.070	0.634	10	6	10	7	6	127.279	1.798	1.126	0.672	21.542	0.963	46.385	44.667	47.986	46.209	256.483	0.638	288.715	0.000	0.000	256.357	27.753	257.357	1.461	2.303	0.000	44.310	-0.233	0.000	0.000	0.000	0.000	0.000	0.000	26.800	268.005	268.005
235	9.050	29.691	-9.050	-29.691	294.363	2.121	10.140	0.721	9	6	10	7	6	124.097	1.809	1.131	0.677	21.706	0.961	56.400	54.187	49.191	47.261	258.702	0.725	292.555	-0.001	-0.001	259.021	28.170	260.021	1.498	2.802	0.000	44.361	-0.246	0.000	0.000	0.000	0.000	0.000	0.000	27.093	270.933	270.933
236	9.100	29.855	-9.100	-29.855	284.680	2.291	17.590	0.805	9	6	10	7	6	124.097	1.819	1.136	0.682	21.870	0.959	54.545	52.287	48.283	46.285	249.016	0.810	282.862	-0.000	-0.000	249.134	27.220	250.134	1.543	3.468	94.822	44.191	-0.253	0.000	0.000	0.000	0.000	0.000	0.000	26.144	261.437	261.437
237	9.150	30.019	-9.150	-30.019	266.918	2.118	22.070	0.794	9	6	10	7	6	124.097	1.829	1.141	0.688	22.034	0.956	51.141	48.916	45.503	43.523	232.336	0.799	265.089	0.000	0.000	232.335	25.505	233.335	1.559	3.707	92.911	43.873	-0.245	0.000	0.000	0.000	0.000	0.000	0.000	24.458	244.581	244.581
238	9.200	30.183	-9.200	-30.183	258.404	1.881	23.020	0.728	9	6	10	7	6	124.097	1.839	1.147	0.693	22.198	0.954	49.510	47.251	43.821	41.821	223.873	0.733	256.565	0.000	0.000	223.850	24.686	224.850	1.543	3.462	91.919	43.707	-0.233	0.000	0.000	0.000	0.000	0.000	0.000	23.626	236.256	236.256
239	9.250	30.347	-9.250	-30.347	254.328	1.661	23.680	0.653	9	6	10	7	6	124.097	1.849	1.152	0.698	22.362	0.952	48.729	46.404	42.752	40.711	219.340	0.658	252.479	0.000	0.000	219.303	24.294	220.303	1.516	3.063	91.400	43.621	-0.221	0.000	0.000	0.000	0.000	0.000	0.000	23.202	232.018	232.018
240	9.300	30.511	-9.300	-30.511	265.857	1.644	25.220	0.618	9	6	10	7	6	124.097	1.860	1.157	0.703	22.526	0.950	50.938	48.401	44.264	42.059	228.344	0.623	263.999	0.000	0.000	228.271	25.394	229.271	1.486	2.642	92.608	43.822	-0.220	0.000	0.000	0.000	0.000	0.000	0.000	24.201	242.006	242.006
241	9.350	30.675	-9.350	-30.675	280.129	1.801	25.450	0.643	9	6	10	7	6	124.097	1.870	1.162	0.708	22.691	0.948	53.673	50.888	46.577	44.161	239.631	0.647	278.260	0.000	0.000	239.556	26.760	240.556	1.482	2.584	94.044	44.061	-0.228	0.000	0.000	0.000	0.000	0.000	0.000	25.444	254.441	254.441
242	9.400	30.840	-9.400	-30.840	271.688	1.835	25.280	0.675	9	6	10	7	6	124.097	1.880	1.167	0.713	22.855	0.946	52.055	49.248	45.542	43.085	231.345	0.680	269.809	0.000	0.000	231.280	25.952	232.280	1.507	2.938	93.105	43.905	-0.229	0.000	0.000	0.000	0.000	0.000	0.000	24.624	246.238	246.238
243	9.450	31.004	-9.450	-31.004	244.913	1.790	21.280	0.731	9	6	10	7	6	124.097	1.890	1.172	0.718	23.019	0.944	46.925	44.298	41.826	39.485	207.479	0.737	243.023	-0.000	-0.000	207.525	23.399	208.525	1.564	3.791	90.069	43.399	-0.227	0.000	0.000	0.000	0.000	0.000	0.000	22.149	221.491	221.491
244	9.500	31.168	-9.500	-31.168	231.851	1.539	20.940	0.664	9	6	9	7	6	124.097	1.900	1.177	0.723	23.183	0.942	44.423	41.845	39.460	37.171	195.474	0.669	229.951	-0.000	-0.000	195.533	22.149	196.533	1.554	3.630	88.436	43.127	-0.213	0.000	0.000	0.000	0.000	0.000	0.000	20.923	209.227	209.227
245	9.550	31.332	-9.550	-31.332	218.544	1.312	21.510	0.600	9	6	9	7	6	124.097	1.910	1.182	0.729	23.347	0.940	41.873	39.359	37.089	34.863	183.366	0.606	216.635	-0.000	-0.000	183.414	20.872	184.414	1.545	3.497	86.681	42.834	-0.198	2.033	444.583	0.000	0.000	0.000	0.000	19.680	196.797	196.797
246	9.600	31.496	-9.600	-31.496	209.985	1.178	23.160	0.561	9	6	9	7	6	124.097	1.921	1.187	0.734	23.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
280	11.300	37.073	-11.300	-37.073	289.441	1.770	22.550	0.612	10	6	10	7	6	127.279	2.266	1.358	0.908	29.092	0.877	46.214	40.528	48.120	42.200	211.584	0.616	287.176	-0.001	-0.001	211.734	27.661	212.734	1.482	2.579	92.745	43.845	-0.212	0.000	0.000	0.000	0.000	0.000	0.000	24.317	243.170	243.170
281	11.350	37.237	-11.350	-37.237	257.579	1.645	22.290	0.639	9	6	10	7	6	124.097	2.276	1.363	0.913	29.256	0.875	49.352	43.198	43.534	38.105	187.385	0.644	255.304	-0.001	-0.001	187.544	24.609	188.544	1.533	3.308	89.348	43.279	-0.205	0.000	0.000	0.000	0.000	0.000	0.000	21.599	215.989	215.989
282	11.400	37.401	-11.400	-37.401	219.475	1.488	26.500	0.678	9	6	9	6	6	124.097	2.286	1.368	0.918	29.420	0.874	42.051	36.739	37.964	33.168	158.821	0.685	217.190	-0.000	-0.000	158.887	20.947	159.887	1.603	4.407	84.706	42.505	-0.196	1.957	429.712	0.000	0.000	0.000	0.000	18.370	183.697	183.697
283	11.450	37.565	-11.450	-37.565	190.536	1.279	26.520	0.671	9	6	9	6	6	124.097	2.296	1.373	0.923	29.584	0.872	36.507	31.836	33.460	29.180	137.144	0.679	188.240	-0.000	-0.001	137.213	18.174	138.213	1.648	5.171	80.600	41.821	-0.182	1.958	373.214	0.000	0.000	0.000	0.000	15.918	159.181	159.181
284	11.500	37.729	-11.500	-37.729	167.660	1.056	27.190	0.630	9	6	9	6	6	124.097	2.307	1.378	0.928	29.748	0.870	32.124	27.962	29.716	25.867	120.028	0.639	165.354	-0.000	-0.000	120.086	15.980	121.086	1.675	5.654	76.881	41.201	-0.164	2.033	341.019	0.000	0.000	0.000	0.000	13.981	139.812	139.812
285	11.550	37.893	-11.550	-37.893	153.313	0.945	27.730	0.616	9	6	9	6	6	124.097	2.317	1.383	0.933	29.913	0.869	29.375	25.523	27.420	23.824	109.206	0.626	150.997	-0.000	-0.000	109.255	14.604	110.255	1.701	6.139	74.265	40.765	-0.154	2.094	321.141	0.000	0.000	0.000	0.000	12.761	127.615	127.615
286	11.600	38.057	-11.600	-38.057	152.484	0.966	29.540	0.634	9	6	9	6	6	124.097	2.327	1.388	0.939	30.077	0.867	29.216	25.339	27.363	23.731	108.203	0.643	150.158	-0.000	-0.000	108.215	14.520	109.215	1.711	6.323	74.057	40.730	-0.155	2.099	320.262	0.000	0.000	0.000	0.000	12.669	126.693	126.693
287	11.650	38.221	-11.650	-38.221	186.595	1.092	31.260	0.585	9	6	9	6	6	124.097	2.337	1.393	0.944	30.241	0.866	35.752	30.951	32.465	28.105	132.294	0.593	184.259	0.000	0.000	132.271	17.782	133.271	1.620	4.697	79.792	41.686	-0.166	1.974	368.513	0.000	0.000	0.000	0.000	15.475	154.753	154.753
288	11.700	38.385	-11.700	-38.385	193.039	1.180	31.940	0.611	9	6	9	6	6	124.097	2.347	1.398	0.949	30.405	0.864	36.986	31.962	33.593	29.029	136.418	0.619	190.693	0.000	0.000	136.383	18.398	137.383	1.621	4.707	80.713	41.840	-0.173	1.959	378.358	0.000	0.000	0.000	0.000	15.981	159.808	159.808
289	11.750	38.549	-11.750	-38.549	189.329	1.170	30.320	0.618	9	6	9	6	6	124.097	2.357	1.403	0.954	30.569	0.863	36.275	31.291	33.061	28.518	133.274	0.626	186.973	-0.000	-0.000	133.280	18.047	134.280	1.631	4.881	80.105	41.738	-0.172	1.970	373.084	0.000	0.000	0.000	0.000	15.645	156.453	156.453
290	11.800	38.713	-11.800	-38.713	176.881	1.131	30.600	0.639	9	6	9	6	6	124.097	2.368	1.409	0.959	30.733	0.861	33.890	29.181	31.237	26.896	123.947	0.648	174.514	-0.000	-0.000	123.950	16.854	124.950	1.664	5.462	78.104	41.405	-0.168	2.010	355.734	0.000	0.000	0.000	0.000	14.590	145.904	145.904
291	11.850	38.877	-11.850	-38.877	165.981	1.055	30.620	0.636	9	6	9	6	6	124.097	2.378	1.414	0.964	30.897	0.859	31.802	27.334	29.524	25.375	115.783	0.645	163.604	-0.000	-0.000	115.788	15.809	116.788	1.685	5.844	76.229	41.092	-0.162	2.053	340.933	0.000	0.000	0.000	0.000	13.667	136.668	136.668
292	11.900	39.042	-11.900	-39.042	151.546	0.988	31.350	0.652	9	6	9	6	6	124.097	2.388	1.419	0.969	31.062	0.858	29.036	24.912	27.322	23.441	105.183	0.662	149.159	0.000	0.000	105.176	14.424	106.176	1.724	6.582	73.570	40.649	-0.155	2.116	320.753	0.000	0.000	0.000	0.000	12.456	124.559	124.559
293	11.950	39.206	-11.950	-39.206	138.445	1.229	31.280	0.888	9	6	9	6	6	124.097	2.398	1.424	0.974	31.226	0.856	26.526	22.718	26.002	22.269	95.597	0.903	136.048	0.000	0.000	95.595	13.170	96.595	1.840	8.987	70.928	40.209	-0.174	2.179	301.759	0.000	0.000	0.000	0.000	11.359	113.589	113.589
294	12.000	39.370	-12.000	-39.370	123.419	1.398	31.860	1.133	8	6	9	6	5	120.915	2.408	1.429	0.980	31.390	0.855	29.559	25.271	24.122	20.623	84.738	1.155	121.012	0.000	0.000	84.727	11.728	85.727	1.947	11.568	67.585	39.652	-0.185	2.263	279.414	0.000	0.000	0.000	0.000	10.109	101.086	101.086
295	12.050	39.534	-12.050	-39.534	131.187	1.403	29.880	1.069	8	6	9	6	5	120.915	2.418	1.433	0.985	31.554	0.854	31.419	26.817	25.296	21.590	89.868	1.090	128.769	-0.000	-0.000	89.904	12.478	90.904	1.911	10.666	69.286	39.935	-0.185	2.220	291.410	0.000	0.000	0.000	0.000	10.727	107.268	107.268
296	12.100	39.698	-12.100	-39.698	251.485	1.370	50.490	0.545	9	6	9	6	6	124.097	2.428	1.438	0.990	31.718	0.852	48.185	41.056	42.115	35.885	173.222	0.550	249.058	0.002	0.002	172.814	23.941	173.814	1.504	2.896	87.890	43.036	-0.184	0.000	0.000	0.000	0.000	0.000	0.000	20.528	205.280	205.280
297	12.150	39.862	-12.150	-39.862	346.719	1.598	33.500	0.461	10	6	10	7	6	127.279	2.439	1.444	0.995	31.882	0.851	55.359	47.085	55.322	47.053	238.590	0.464	344.282	0.000	0.000	238.555	33.116	239.555	1.351	0.949	0.000	44.561	-0.198	0.000	0.000	0.000	0.000	0.000	0.000	28.251	282.507	282.507
298	12.200	40.026	-12.200	-40.026	359.107	1.996	33.190	0.556	10	6	10	7	6	127.279	2.449	1.449	1.000	32.046	0.849	57.337	48.677	58.089	49.315	246.260	0.560	356.659	0.000	0.000	246.235	34.303	247.235	1.395	1.463	0.000	44.720	-0.217	0.000	0.000	0.000	0.000	0.000	0.000	29.206	292.064	292.064
299	12.250	40.190	-12.250	-40.190	350.222	2.349	34.030	0.671	10	6	10	7	6	127.279	2.459	1.454	1.005	32.211	0.847	55.919	47.386	57.843	49.016	239.240	0.675	347.764	0.000	0.000	239.201	33.450	240.201	1.461	2.299	0.000	44.592	-0.232	0.000	0.000	0.000	0.000	0.000	0.000	28.432	284.316	284.316
300	12.300	40.354	-12.300	-40.354	385.810	2.316	40.060	0.600	10	6	10	7	6	127.279	2.470	1.460	1.010	32.375	0.846	61.601	52.106	62.457	52.830	262.754	0.604	383.341	0.001	0.001	262.589	36.841	263.589	1.397	1.493	0.000	45.045	-0.230	0.000	0.000	0.000	0.000	0.000	0.000	31.264	312.635	312.635
301	12.350	40.518	-12.350	-40.518	399.039	2.288	33.490	0.573	10	6	10	7	6	127.279	2.480	1.465	1.015	32.539	0.844	63.713	53.795	64.118	54.137	270.827	0.577	396.560	0.000	0.000	270.806	38.128	271.806	1.373	1.208	0.000	45.198	-0.228	0.000	0.000	0.000	0.000	0.000	0.000	32.277	322.767	322.767
302	12.400	40.682	-12.400	-40.682	390.313	2.693	34.040	0.690	10	6	10	7	6	127.279	2.491	1.470	1.021	32.703	0.843	62.320	52.523	64.017	53.953	263.901	0.694	387.823	0.000	0.000	263.873	37.290	264.873	1.439	2.012	0.000	45.083	-0.243	0.000	0.000	0.000	0.000	0.000	0.000	31.514	315.137	315.137
303	12.450	40.846	-12.450	-40.846	369.445	5.534	32.760	1.498	9	6	10	7	8	124.097	2.501	1.475	1.026	32.867	0.841	70.786	59.553	66.436	55.893	248.816	1.508	366.945	-0.000	-0.000	248.818	35.295	249.818	1.717	6.439	0.000	44.813	-0.321	0.000	0.000	0.000	0.000	0.000	0.000	29.776	297.763	297.763
304	12.500	41.010	-12.500	-41.010	324.434	2.312	37.420	0.713	10	6	10	7	6	127.279	2.511	1.481	1.031	33.031	0.840	51.801	43.504	54.362	45.655	217.523	0.718	321.923	0.000	0.000	217.430	30.969	218.430	1.506	2.920	94.777	44.184	-0.229	0.000	0.000	0.000	0.000	0.000	0.000	26.103	261.027	261.027
305	12.550	41.174	-12.550	-41.174	364.866	4.455	74.660	1.221	9	6	10	7	8	124.097	2.522	1.486	1.036	33.195	0.838	69.908	58.609	64.117	53.753	243.981	1.229	362.345	0.004	0.004	243.109	34.731	244.109	1.650	5.204	0.000	44.736	-0.294	0.000	0.000	0.000	0.000	0.000	0.000	29.304	293.044	293.044
306	12.600	41.338	-12.600	-41.338	552.538	6.096	84.610	1.103	9	6	10	7	8	124.097	2.532	1.491	1.041	33.360	0.837	105.866	88.604	92.682	77.570	369.084	1.108	550.007	0.003	0.003	368.010	52.680	369.010	1.509	2.968	0.000	46.711	-0.322	0.000	0.000	0.000	0.000	0.000	0.000	44.302	443.020	443.020
307	12.650	41.502	-12.650	-41.502	633.647	7.035	41.220	1.110	9	6	10	7	8	124.097	2.542	1.496	1.046	33.524	0.836	121.407	101.439	105.295	87.977	422.073	1.115	631.106	0.000	0.000	421.912	60.580	422.912	1.480	2.559	0.000	47.357	-0.336	0.000	0.000	0.000	0.000	0.000	0.000	50.719	507.193	507.193
308	12.700	41.666	-12.700	-41.666	646.844	5.953	51.830	0.920	10	6	10	7	8	127.279	2.552	1.501	1.051	33.688	0.834	103.279	86.143	105.012	87.588	429.402	0.924	644.292	0.001	0.001	429.024	61.813	430.024	1.407	1.603	0.000	47.447	-0.317	0.000	0.000	0.000	0.000	0.000	0.000	51.686	516.860	516.860
309	12.750	41.830	-12.750	-41.830	497.119	5.143	49.540	1.035	9	6	10	7	8	124.097	2.563	1.506	1.056	33.852	0.833	95.248	79.308	83.497	69.523	328.472	1.040	494.558	0.001	0.001	328.147	47.476	329.147	1.513	3.026	0.000	46.181	-0.304	0.000	0.000	0.000	0.000	0.000	0.000	39.654	396.538	396.538
310	12.800	41.994	-12.800	-41.994	389.170	3.429	35.220	0.881	9	6	10	7	8	124.097	2.573	1.511	1.062	34.016	0.831	74.565	61.982	65.589	54.521	255.909	0.887	386.598	0.000	0.000	255.884	37.177	256.884	1.524	3.180	0.000	45.004	-0.264	0.000	0.000	0.000	0.000	0.000	0.000	30.991	309.909	309.909
311	12.850	42.158	-12.850	-42.158	287.319	3.260	28.610	1.135	9	6	10	7	6	124.097	2.583	1.516	1.067	34.180	0.830	55.050	45.684	51.262	42.540	187.853	1.145	284.737	-0.001	-0.001	187.967	27.440	188.967	1.694	6.008	90.952	43.546	-0.261	0.000	0.000	0.000	0.000	0.000	0.000	22.842	228.420	228.420
312	12.900	42.322	-12.900	-42.322	161.943	3.792	26.180	2.342	7	5	9	6	5	117.733	2.593	1.521	1.072	34.344	0.829	51.714	42.848	33.555	27.802	104.799	2.380	159.352	-0.002	-0.002	104.966	15.436	105.966	2.098	15.745	74.472	40.800	-0.296	2.111	342.001	0.000	0.000	0.000	0.000	12.854	128.543	128.543
313	12.950	42.486	-12.950	-42.486	81.188	3.647	44.530	4.492	11	4	8	6	3	130.461	2.603	1.526	1.077	34.508	0.827	77.778	64.336	20.178	16.690	51.512	4.641	78.586	0.004	0.004	51.306	7.645	52.306	2.514	31.311	54.633	37.493	-0.381	2.746	223.018	0.000	0.000	0.000	0.000	6.434	64.336	64.336
314	13.000	42.650	-13.000	-42.650	61.677	2.189	53.970	3.549	5	4	8	6	4	114.551	2.613	1.531	1.082	34.673	0.826	29.543	24.398	15.408	12.725	38.591	3.706	59.065	0.010	0.010	38.197	5.747	39.197	2.525	31.802	46.709	36.172	-0.257	3.153	194.524	0.000	0.000	0.000	0.000	4.880	48.796	48.796
315	13.050	42.814	-13.050	-42.814	102.913	1.749	303.280	1.699	7	5	7	6	5	117.733	2.623	1.536	1.087	34.837	0.825	32.864	27.101	21.668	17.869	65.340	1.744	100.292	0.081	0.084	59.880	8.952	60.880	2.138	16.968	61.343	38.611	-0.193	2.474	254.695	0.000	0.000	0.000	0.000	8.130	81.304	81.304
316	13.100	42.978	-13.100	-42.978	170.996	1.333	207.550	0.780	9	6	9	6	6	124.097	2.633	1.540	1.092	35.001	0.823	32.763	26.976	31.058	25.572	109.347	0.792	168.364	0.032	0.032	105.848	15.761	106.848	1.746	6.999	75.852	41.029	-0.171	2.081	356.004	0.000	0.000	0.000	0.000	13.488	134.880	134.880
317	13.150	43.143	-13.150	-43.143	165.936	1.028	47.380	0.620	9	6	9	6	6	124.097	2.643	1.545	1.097	35.165	0.822	31.793	26.135	29.609	24.339	105.707	0.630	163.294	0.002	0.002	105.459	15.755	106.459	1.694	6.014	74.944	40.878	-0.151	2.104	349.201	0.000	0.000	0.000	0.000	13.067	130.674	130.674
318	13.200	43.307	-13.200	-43.307	155.571	0.966	40.250	0.621	9	6	9	6	6	124.097	2.653	1.550	1.102	35.329	0.821	29.807	24.462	27.990	22.971	98.668	0.632	152.919	0.001	0.001	98.568	14.783	99.568	1.718	6.467	73.048	40.562	-0.145	2.150	334.580	0.000	0.000	0.000	0.000	12.231	122.312	122.312
319	13.250	43.471	-13.250	-43.471	160.351	1.262	44.970	0.787	9	6	9	6	6	124.097	2.663	1.556	1.108	35.493	0.819	30.723	25.173	29.393	24.083	101.414	0.800	157.689	0.002	0.002	101.223	15.227	102.223	1.772	7.528	73.869	40.699	-0.168	2.131	341.837	0.000	0.000	0.000	0.000	12.586	125.864	125.864
320	13.300	43.635	-13.300	-43.635	190.397	2.005	62.010	1.053	9	6	9	6	5	124.097	2.673	1.561	1.113	35.657	0.818	36.480	29.841	35.251	28.836	120.340	1.068	187.725	0.004	0.004	119.812	18.055	120.812	1.800	8.117	78.745	41.512	-0.211	2.017	384.135	0.000	0.000	0.000	0.000	14.921	149.206	149.206
321	13.350	43.799	-13.350	-43.799	269.397	2.372	95.650	0.880	9	6	9	6	6	124.097	2.684	1.566	1.118	35.822	0.817	51.616	42.155	47.141	38.499	170.423	0.889	266.715	0.007	0.007	169.230	25.522	170.230	1.637	4.987	88.647	43.162	-0.226	0.000	0.000	0.000	0.000	0.000	0.000	21.077	210.774	210.774
322	13.400	43.963	-13.400	-43.963	330.823	2.698	106.260	0.816	9	6	10	7	6	124.097	2.694	1.571	1.123	35.986	0.815	63.386	51.683	56.260	45.873	208.991	0.822	328.131	0.007	0.007	207.594	31.375	208.594	1.551	3.593	94.488	44.136	-0.237	0.000	0.000	0.000	0.000	0.000	0.000	25.842	258.416	258.416
323	13.450	44.127	-13.450	-44.127	380.812	3.727	141.290	0.979	9	6	10	7	6	124.097	2.704	1.576	1.128	36.150	0.814	72.964	59.397	65.178	53.059	240.050	0.986	378.109	0.009	0.009	237.966	36.059	238.966	1.571	3.895	0.000	44.800	-0.268	0.000	0.000	0.000	0.000	0.000	0.000	29.699	296.986	296.986
324	13.500	44.291	-13.500	-44.291	460.210	4.966	36.830	1.079	9	6	10	7	8	124.097	2.714	1.581	1.133	36.314	0.813	88.176	71.666	78.332	63.665	289.521	1.085	457.497	0.000	0.000	289.510	43.978	290.510	1.554	3.633	0.000	45.697	-0.297	0.000	0.000	0.000	0.000	0.000	0.000	35.833	358.331	358.331
325	13.550	44.455	-13.550	-44.455	535.109	6.287	46.300	1.175	9	6	10	7	8	124.097	2.724	1.586	1.138	36.478	0.811	102.527	83.197	90.876	73.743	335.839	1.181	532.386	0.001	0.001	335.645	51.125	336.645	1.547	3.529	0.000	46.410	-0.321	0.000	0.000	0.000	0.000	0.000	0.000	41.598	415.984	415.984
326	13.600	44.619	-13.600	-44.619	529.678	7.101	62.130	1.341	9	6	10	7	8	124.097	2.734	1.591	1.143	36.642	0.810	101.486	82.221	91.480	74.115	331.349	1.348	526.945	0.002	0.002	330.848	50.557	331.848	1.598	4.332	0.000	46.354	-0.335	0.000	0.000	0.000	0.000	0.000	0.000	41.111	411.107	411.107
327	13.650	44.783	-13.650	-44.783	512.030	6.461	64.030	1.262	9	6	10	7	8	124.097	2.745	1.596	1.149	36.806	0.809	98.105	79.356	88.032	71.208	319.230	1.269	509.286	0.002	0.002	318.697	48.861	319.697	1.585	4.111	0.000	46.184	-0.324	0.000	0.000	0.000	0.000	0.000	0.000	39.678	396.779	396.779
328	13.700	44.947	-13.700	-44.947	493.653	5.761	93.310	1.167	9	6	10	7	8	124.097	2.755	1.601	1.154	36.971	0.808	94.584	76.387	84.346	68.119	306.732	1.174	490.899	0.004	0.004	305.633	47.013	306.633	1.566	3.813	0.000	46.002	-0.311	0.000	0.000	0.000	0.000	0.000	0.000	38.193	381.934	381.934
329	13.750	45.111	-13.750	-45.111	478.015	5.316	71.280	1.112	9	6	10	7	8	124.097	2.765	1.606	1.159	37.135	0.806	91.588	73.850	81.442	65.669	296.019	1.119	475.251	0.002	0.002	295.355	45.581	296.355	1.557	3.679	0.000	45.841	-0.302	0.000	0.000	0.000	0.000	0.000	0.000	36.925	369.252	369.252
330	13.800	45.275	-13.800	-45.275	491.382	5.122	112.380	1.042	9	6	10	7	8	124.097	2.775	1.611	1.164	37.299	0.805	94.149	75.796	82.916	66.753	303.383	1.048	488.608	0.005	0.005	301.927	46.738	302.927	1.528	3.234	0.000	45.965	-0.297	0.000	0.000	0.000	0.000	0.000	0.000	37.898	378.981	378.981
331	13.850	45.439	-13.850	-45.439	509.346	1.858	69.790	0.365	10	7	10	7	6	127.279	2.785	1.616	1.169	37.463	0.804	81.326	65.367	77.128	61.994	313.521	0.367	506.561	0.002	0.002	312.896	48.587	313.896	1.176	0.000	0.000	46.129	-0.201	0.000	0.000	0.000	0.000	0.000	0.000	39.220	392.205	392.205
332	13.900	45.603	-13.900	-45.603	534.974	3.301	131.930	0.617	10	6	10	7	8	127.279	2.796	1.622	1.174	37.627	0.802	85.417	68.544	84.711	67.976	328.295	0.620	532.179	0.006	0.006	326.479	50.856	327.479	1.326	0.677	0.000	46.355	-0.252	0.000	0.000	0.000	0.000	0.000	0.000	41.126	411.262	411.262
333	13.950	45.767	-13.950	-45.767	611.047	3.564	23.600	0.583	10	6	10	7	8	127.279	2.806	1.627	1.179	37.791	0.801	97.564	78.163	95.147	76.226	373.991	0.586	608.242	-0.001	-0.001	374.263	58.468	375.263	1.270	0.110	0.000	46.983	-0.259	0.000	0.000	0.000	0.000	0.000	0.000	46.898	468.975	468.975
334	14.000	45.931	-14.000	-45.931	650.731	4.769	32.270	0.733	10	6	10	7	8	127.279	2.817	1.632	1.184	37.955	0.800	103.900	83.103	103.276	82.604	397.087	0.736	647.916	-0.000	-0.000	397.195	62.244	398.195	1.333	0.757	0.000	47.275	-0.286	0.000	0.000	0.000	0.000	0.000	0.000	49.862	498.618	498.618
335	14.050	46.095	-14.050	-46.095	431.971	6.175	32.150	1.429	9	6	10	7	8	124.097	2.827	1.638	1.190	38.120	0.799	82.766	66.094	76.546	61.127	262.175	1.439	429.145	-0.000	-0.000	262.289	41.287	263.289	1.674	5.642	0.000	45.310	-0.320	0.000	0.000	0.000	0.000	0.000	0.000	33.047	330.469	330.469
336	14.100	46.259	-14.100	-46.259	628.846	6.635	56.950	1.055	10	6	10	7	8	127.279	2.837	1.643	1.195	38.284	0.797	100.406	80.054	104.290	83.151	381.237	1.060	626.009	0.001	0.001	380.881	60.073	381.881	1.474	2.474	0.000	47.097	-0.320	0.000	0.000	0.000	0.000	0.000	0.000	48.032	480.323	480.323
337	14.150	46.423	-14.150	-46.423	630.889	7.785	55.900	1.234	9	6	10	7	8	124.097	2.848	1.648	1.200	38.448	0.796	120.878	96.225	106.590	84.851	381.270	1.240	628.042	0.001	0.001	380.939	60.272	381.939	1.531	3.292	0.000	47.105	-0.339	0.000	0.000	0.000	0.000	0.000	0.000	48.112	481.125	481.125
338	14.200	46.587	-14.200	-46.587	616.918	8.539	92.630	1.384	9	6	10	7	8	124.097	2.858	1.653	1.205	38.612	0.795	118.202	93.950	105.895	84.168	371.642	1.391	614.062	0.003	0.003	370.621	58.824	371.621	1.580	4.033	0.000	46.991	-0.351	0.000	0.000	0.000	0.000	0.000	0.000	46.975	469.750	469.750
339	14.250	46.751	-14.250	-46.751	558.669	8.320	113.640	1.489	9	6	10	7	8	124.097	2.868	1.658	1.210	38.

| | | |

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
106	2.600	8.530	-2.600	-8.530	19.360	0.667	36.810	3.445	5	4	6	5	4	114.551	0.497	0.497	0.000	0.000	1.449	9.273	13.441	5.152	8.663	37.964	3.536	18.863	0.059	0.061	35.651	1.745	36.651	2.652	37.947	0.000	33.324	-0.237	0.000	0.000	0.000	0.000	0.000	2.688	26.882	31.185
107	2.650	8.694	-2.650	-8.694	27.210	0.658	64.080	2.418	6	5	6	6	4	114.551	0.506	0.506	0.000	0.000	1.436	10.427	14.972	6.683	9.596	52.747	2.464	26.704	0.074	0.075	48.796	2.415	49.796	2.489	30.194	39.108	34.905	-0.214	3.395	92.412	0.000	0.000	0.000	0.000	3.743	37.430	37.430
108	2.700	8.858	-2.700	-8.858	34.249	0.859	3.040	2.508	6	5	7	6	4	114.551	0.516	0.516	0.000	0.000	1.423	13.124	18.673	8.169	11.622	65.418	2.546	33.733	0.003	0.003	65.234	3.272	66.234	2.426	27.495	45.439	35.961	-0.252	3.046	104.374	0.000	0.000	0.000	0.000	4.668	46.682	46.682
109	2.750	9.022	-2.750	-9.022	20.913	0.814	6.910	3.892	4	4	7	6	3	114.551	0.525	0.525	0.001	0.023	1.411	13.357	18.845	5.470	10.615	38.884	3.993	20.388	0.010	0.011	38.474	1.983	39.474	2.618	36.227	31.061	33.564	-0.278	0.000	0.000	0.000	0.000	0.000	2.827	28.268	38.884
110	2.800	9.186	-2.800	-9.186	11.910	0.590	38.500	4.954	3	3	5	5	3	111.369	0.535	0.529	0.006	0.187	1.405	11.410	16.036	3.596	6.784	21.526	5.186	11.376	0.100	0.105	19.263	1.026	20.263	2.883	50.931	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.759	0.150	7.951	1.604	16.036	21.526
111	2.850	9.350	-2.850	-9.350	19.537	0.464	50.710	2.375	5	4	6	5	4	114.551	0.544	0.533	0.011	0.351	1.400	9.358	13.101	4.967	7.956	35.659	2.443	18.993	0.080	0.083	32.708	1.720	33.708	2.561	33.482	0.000	33.202	-0.166	0.000	0.000	0.000	0.000	0.000	2.620	26.201	29.975
112	2.900	9.514	-2.900	-9.514	38.287	0.870	9.100	2.272	6	5	7	6	5	114.551	0.553	0.537	0.016	0.515	1.394	14.672	20.457	8.893	12.400	70.281	2.306	37.734	0.007	0.007	69.782	3.641	70.782	2.368	25.123	48.055	36.397	-0.245	2.907	111.359	0.000	0.000	0.000	0.000	5.114	51.143	51.143
113	2.950	9.678	-2.950	-9.678	41.873	0.863	-9.120	2.061	6	5	8	6	5	114.551	0.563	0.541	0.021	0.680	1.389	16.046	22.285	9.487	13.176	76.336	2.089	41.311	-0.007	-0.007	76.901	4.039	77.901	2.312	22.956	50.508	36.805	-0.242	2.782	116.548	0.000	0.000	0.000	0.000	5.571	55.712	55.712
114	3.000	9.842	-3.000	-9.842	38.041	1.188	19.360	3.123	5	5	7	6	4	114.551	0.572	0.546	0.026	0.844	1.383	18.222	25.207	9.246	12.791	68.694	3.171	37.469	0.015	0.015	67.635	3.586	68.635	2.467	29.231	47.644	36.328	-0.299	2.929	111.462	0.000	0.000	0.000	0.000	5.041	50.415	50.415
115	3.050	10.006	-3.050	-10.006	48.379	1.302	15.820	2.691	6	5	8	6	4	114.551	0.581	0.550	0.031	1.008	1.378	18.539	25.546	11.135	15.344	86.949	2.724	47.798	0.010	0.010	86.108	4.587	87.108	2.348	24.325	54.423	37.458	-0.297	2.596	125.665	0.000	0.000	0.000	0.000	6.387	63.865	63.865
116	3.100	10.170	-3.100	-10.170	26.367	1.107	1.200	4.198	4	4	7	6	3	114.551	0.591	0.554	0.037	1.172	1.373	16.840	23.116	6.961	10.845	46.529	4.295	25.777	0.000	0.000	46.527	2.522	47.527	2.636	37.146	36.915	34.540	-0.332	3.517	92.760	0.000	0.000	0.000	0.000	3.467	34.674	39.357
117	3.150	10.335	-3.150	-10.335	18.723	0.771	34.090	4.118	4	4	6	5	3	114.551	0.600	0.559	0.042	1.336	1.367	11.958	16.351	5.091	9.214	32.463	4.254	18.123	0.055	0.056	30.631	1.692	31.631	2.693	40.104	0.000	32.886	-0.261	0.000	0.000	0.000	0.000	0.000	2.453	24.526	32.463
118	3.200	10.499	-3.200	-10.499	12.949	0.501	51.030	3.869	4	3	5	5	3	114.551	0.610	0.563	0.047	1.500	1.362	8.270	11.265	3.743	6.618	21.935	4.060	12.339	0.119	0.125	19.186	1.088	20.186	2.806	46.362	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.823	0.193	8.191	1.690	16.898	21.935
119	3.250	10.663	-3.250	-10.663	12.705	0.325	58.500	2.558	5	4	5	5	4	114.551	0.619	0.567	0.052	1.664	1.357	6.086	8.259	3.472	6.083	21.323	2.689	12.086	0.140	0.147	18.193	1.042	19.193	2.703	40.608	0.000	30.997	-0.108	0.000	0.000	0.000	0.000	0.000	1.652	16.517	21.323
120	3.300	10.827	-3.300	-10.827	10.220	0.221	41.680	2.162	5	4	4	4	4	114.551	0.628	0.571	0.057	1.829	1.352	4.895	6.618	2.859	4.904	16.796	2.304	9.592	0.122	0.130	14.618	0.854	15.618	2.747	42.975	0.000	29.940	-0.068	0.000	0.000	0.000	0.000	0.000	1.324	13.237	16.796
121	3.350	10.991	-3.350	-10.991	9.115	0.190	71.260	2.085	5	4	4	4	4	114.551	0.638	0.576	0.062	1.993	1.347	4.366	5.881	2.606	4.397	14.734	2.241	8.477	0.237	0.255	10.976	0.660	11.976	2.786	45.216	0.000	29.375	-0.033	0.000	0.000	0.000	0.000	0.000	1.176	11.761	14.734
122	3.400	11.155	-3.400	-11.155	8.462	0.249	94.830	2.943	4	3	3	3	3	114.551	0.647	0.580	0.067	2.157	1.342	5.404	7.252	2.590	4.308	13.483	3.186	7.815	0.342	0.370	8.492	0.527	9.492	2.906	52.388	0.000	0.000	0.000	0.000	0.000	0.000	0.521	0.362	3.884	1.088	10.879	13.483
123	3.450	11.319	-3.450	-11.319	9.844	0.280	56.630	2.845	4	4	4	4	3	114.551	0.657	0.584	0.072	2.321	1.337	6.287	8.406	2.901	4.840	15.734	3.048	9.187	0.172	0.185	12.831	0.774	13.831	2.841	48.393	0.000	29.707	-0.078	0.000	0.000	0.000	0.000	0.000	1.261	12.608	15.734
124	3.500	11.483	-3.500	-11.483	15.315	0.454	10.470	2.964	5	4	6	5	4	114.551	0.666	0.588	0.078	2.485	1.332	7.336	9.773	4.154	7.052	24.906	3.099	14.650	0.016	0.017	24.482	1.436	25.482	2.689	39.850	0.000	31.802	-0.163	0.000	0.000	0.000	0.000	0.000	1.955	19.546	24.906
125	3.550	11.647	-3.550	-11.647	15.783	0.332	16.490	2.104	5	4	6	5	4	114.551	0.675	0.593	0.083	2.649	1.327	7.560	10.035	4.158	6.180	25.500	2.198	15.108	0.027	0.029	24.771	1.463	25.771	2.632	36.934	0.000	31.928	-0.123	0.000	0.000	0.000	0.000	0.000	2.007	20.070	22.477
126	3.600	11.811	-3.600	-11.811	15.554	0.456	31.040	2.932	5	4	6	5	4	114.551	0.685	0.597	0.088	2.813	1.323	7.450	9.854	4.212	7.044	24.917	3.067	14.869	0.057	0.059	23.441	1.397	24.441	2.686	39.690	0.000	31.841	-0.156	0.000	0.000	0.000	0.000	0.000	1.971	19.707	24.917
127	3.650	11.975	-3.650	-11.975	15.056	0.605	23.370	4.018	4	3	6	5	3	114.551	0.694	0.601	0.093	2.977	1.318	9.616	12.672	4.310	7.140	23.896	4.213	14.362	0.042	0.044	22.837	1.372	23.837	2.789	45.351	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.958	0.080	9.381	1.901	19.008	23.896
128	3.700	12.139	-3.700	-12.139	19.384	0.597	32.710	3.080	5	4	6	5	4	114.551	0.704	0.606	0.098	3.142	1.313	9.285	12.193	5.091	8.462	30.863	3.196	18.681	0.048	0.049	29.338	1.759	30.338	2.626	36.650	0.000	32.859	-0.191	0.000	0.000	0.000	0.000	0.000	2.439	24.386	30.863
129	3.750	12.303	-3.750	-12.303	24.670	0.555	-3.160	2.250	6	5	7	6	4	114.551	0.713	0.610	0.103	3.306	1.309	9.454	12.371	6.197	8.109	39.303	2.317	23.958	-0.008	-0.008	39.634	2.373	40.634	2.536	32.314	33.638	33.994	-0.181	3.696	91.227	0.000	0.000	0.000	0.000	3.093	30.928	30.928
130	3.800	12.467	-3.800	-12.467	14.474	0.361	7.090	2.494	5	4	6	5	4	114.551	0.722	0.614	0.108	3.470	1.304	6.933	9.041	3.907	6.313	22.404	2.625	13.752	0.008	0.008	22.219	1.365	23.219	2.680	39.375	0.000	31.430	-0.129	0.000	0.000	0.000	0.000	0.000	1.808	18.082	22.404
131	3.850	12.631	-3.850	-12.631	11.015	0.238	16.840	2.161	5	4	5	5	4	114.551	0.732	0.618	0.113	3.634	1.300	5.276	6.857	3.089	4.869	16.637	2.314	10.284	0.037	0.040	15.970	1.005	16.970	2.751	43.223	0.000	30.109	-0.078	0.000	0.000	0.000	0.000	0.000	1.371	13.713	16.637
132	3.900	12.795	-3.900	-12.795	10.811	0.123	27.450	1.138	5	4	5	5	5	114.551	0.741	0.623	0.119	3.798	1.295	5.179	6.707	2.819	4.404	16.180	1.221	10.070	0.068	0.073	14.994	0.954	15.994	2.612	35.922	0.000	30.003	-0.022	0.000	0.000	0.000	0.000	0.000	1.341	13.413	16.180
133	3.950	12.959	-3.950	-12.959	10.209	0.154	35.090	1.508	5	4	5	4	4	114.551	0.751	0.627	0.124	3.962	1.291	4.890	6.311	2.788	4.303	15.094	1.628	9.459	0.095	0.103	13.543	0.873	14.543	2.702	40.546	0.000	29.713	-0.033	0.000	0.000	0.000	0.000	0.000	1.262	12.623	15.094
134	4.000	13.123	-4.000	-13.123	11.580	0.218	38.410	1.883	5	4	5	5	4	114.551	0.760	0.631	0.129	4.126	1.286	5.547	7.134	3.170	4.900	17.149	2.015	10.820	0.092	0.099	15.453	0.994	16.453	2.706	40.768	0.000	30.298	-0.063	0.000	0.000	0.000	0.000	0.000	1.427	14.269	17.149
135	4.050	13.287	-4.050	-13.287	11.975	0.456	20.100	3.808	3	3	5	5	3	111.369	0.769	0.635	0.134	4.291	1.282	11.473	14.708	3.608	5.550	17.646	4.069	11.207	0.041	0.044	16.869	1.087	17.869	2.879	50.715	0.000	0.000	0.000	0.000	0.000	0.000	0.747	0.062	5.833	1.471	14.708	17.646
136	4.100	13.451	-4.100	-13.451	19.205	0.626	64.930	3.260	5	4	5	5	4	114.551	0.779	0.639	0.139	4.455	1.278	9.199	11.756	5.148	8.066	28.827	3.397	18.427	0.098	0.102	25.874	1.646	26.874	2.666	38.670	0.000	32.684	-0.185	0.000	0.000	0.000	0.000	0.000	2.351	23.511	28.827
137	4.150	13.615	-4.150	-13.615	33.539	0.930	-1.700	2.773	6	5	7	6	4	114.551	0.788	0.644	0.144	4.619	1.274	12.852	16.369	8.282	10.548	50.896	2.840	32.752	-0.006	-0.006	51.203	3.218	52.203	2.500	30.701	41.665	35.332	-0.242	3.253	109.147	0.000	0.000	0.000	0.000	4.092	40.923	40.923
138	4.200	13.779	-4.200	-13.779	45.856	0.873	-13.450	1.904	7	5	8	6	5	117.733	0.797	0.648	0.149	4.783	1.269	14.643	18.587	10.290	13.062	69.546	1.937	45.059	-0.012	-0.013	70.424	4.433	71.424	2.290	22.142	50.533	36.810	-0.222	2.781	127.578	0.000	0.000	0.000	0.000	5.576	55.760	55.760
139	4.250	13.943	-4.250	-13.943	70.018	0.555	-14.740	0.793	8	6	8	6	6	120.915	0.807	0.653	0.154	4.947	1.265	16.769	21.209	13.484	17.053	106.059	0.802	69.211	-0.009	-0.009	107.001	6.752	108.001	1.908	10.581	62.562	38.814	-0.174	2.283	159.946	0.000	0.000	0.000	0.000	8.484	84.836	84.836
140	4.300	14.107	-4.300	-14.107	85.144	0.492	-13.830	0.578	8	6	9	6	6	120.915	0.817	0.658	0.160	5.111	1.260	20.392	25.696	15.544	19.587	128.280	0.583	84.327	-0.007	-0.007	129.179	8.198	130.179	1.760	7.292	68.063	39.731	-0.163	2.131	181.551	0.000	0.000	0.000	0.000	10.279	102.785	102.785
141	4.350	14.271	-4.350	-14.271	89.781	0.708	-11.070	0.789	8	6	9	6	6	120.915	0.827	0.662	0.165	5.275	1.256	21.503	26.998	16.756	21.038	134.339	0.796	88.954	-0.006	-0.006	135.109	8.634	136.109	1.822	8.601	69.479	39.967	-0.194	2.098	188.478	0.000	0.000	0.000	0.000	10.799	107.990	107.990
142	4.400	14.436	-4.400	-14.436	96.065	0.810	-7.250	0.843	8	6	9	6	6	120.915	0.837	0.667	0.170	5.440	1.251	23.008	28.783	17.905	22.400	142.779	0.851	95.228	-0.004	-0.004	143.373	9.225	144.373	1.818	8.519	71.314	40.273	-0.206	2.058	197.805	0.000	0.000	0.000	0.000	11.513	115.132	115.132
143	4.450	14.600	-4.450	-14.600	103.629	0.949	-0.150	0.916	8	6	9	6	6	120.915	0.847	0.672	0.175	5.604	1.247	24.819	30.938	19.307	24.067	153.005	0.923	102.783	-0.002	-0.002	153.273	9.928	154.273	1.817	8.494	73.384	40.618	-0.220	2.015	208.931	0.000	0.000	0.000	0.000	12.375	123.754	123.754
144	4.500	14.764	-4.500	-14.764	106.064	1.030	3.870	0.971	8	6	9	6	6	120.915	0.857	0.677	0.180	5.768	1.242	25.402	31.553	19.834	24.636	155.505	0.979	105.208	-0.001	-0.001	155.593	10.149	156.593	1.828	8.720	73.948	40.712	-0.227	2.004	212.633	0.000	0.000	0.000	0.000	12.621	126.212	126.212
145	4.550	14.928	-4.550	-14.928	105.126	1.066	5.690	1.014	8	6	9	6	6	120.915	0.867	0.682	0.185	5.932	1.238	25.178	31.163	19.776	24.478	153.018	1.022	104.259	-0.000	-0.000	153.029	10.054	154.029	1.844	9.089	73.592	40.653	-0.230	2.011	211.506	0.000	0.000	0.000	0.000	12.465	124.654	124.654
146	4.600	15.092	-4.600	-15.092	101.824	1.004	7.020	0.986	8	6	9	6	6	120.915	0.877	0.686	0.190	6.096	1.233	24.387	30.079	19.180	23.657	147.122	0.995	100.948	0.000	0.000	147.080	9.734	148.080	1.848	9.169	72.577	40.484	-0.223	2.032	206.973	0.000	0.000	0.000	0.000	12.032	120.316	120.316
147	4.650	15.256	-4.650	-15.256	98.686	1.001	7.440	1.014	8	6	9	6	6	120.915	0.887	0.691	0.195	6.260	1.229	23.635	29.051	18.722	23.012	141.546	1.024	97.800	0.000	0.000	141.493	9.432	142.493	1.867	9.618	71.580	40.317	-0.222	2.053	202.648	0.000	0.000	0.000	0.000	11.620	116.203	116.203
148	4.700	15.420	-4.700	-15.420	99.018	0.997	7.710	1.007	8	6	9	6	6	120.915	0.897	0.696	0.200	6.424	1.225	23.715	29.048	18.771	22.992	141.033	1.016	98.122	0.000	0.000	140.975	9.463	141.975	1.865	9.570	71.577	40.317	-0.221	2.053	203.335	0.000	0.000	0.000	0.000	11.619	116.191	116.191
149	4.750	15.584	-4.750	-15.584	105.717	1.018	9.120	0.963	8	6	9	6	6	120.915	0.906	0.701	0.206	6.589	1.221	25.319	30.907	19.801	24.171	149.615	0.971	104.811	0.001	0.001	149.502	10.100	150.502	1.832	8.818	73.355	40.613	-0.223	2.016	213.203	0.000	0.000	0.000	0.000	12.363	123.627	123.627
150	4.800	15.748	-4.800	-15.748	117.688	1.047	9.350	0.890	8	6	9	6	6	120.915	0.916	0.706	0.211	6.753	1.217	28.186	34.289	21.600	26.277	165.557	0.897	116.772	0.001	0.001	165.441	11.247	166.441	1.775	7.600	76.332	41.109	-0.224	1.957	230.440	0.000	0.000	0.000	0.000	13.716	137.157	137.157
151	4.850	15.912	-4.850	-15.912	126.517	1.108	12.280	0.876	9	6	9	7	6	124.097	0.926	0.711	0.216	6.917	1.212	24.241	29.387	23.000	27.883	176.824	0.882	125.591	0.001	0.001	176.588	12.084	177.588	1.748	7.051	78.305	41.438	-0.229	1.921	243.197	0.000	0.000	0.000	0.000	14.693	146.934	146.934
152	4.900	16.076	-4.900	-16.076	132.290	1.225	14.470	0.926	9	6	9	7	6	124.097	0.937	0.716	0.221	7.081	1.208	25.347	30.619	24.075	29.083	183.631	0.933	131.354	0.002	0.002	183.308	12.630	184.308	1.751	7.111	79.483	41.635	-0.238	1.903	251.829	0.000	0.000	0.000	0.000	15.310	153.095	153.095
153	4.950	16.240	-4.950	-16.240	134.428	0.956	12.430	0.711	9	6	9	7	6	124.097	0.947	0.721	0.226	7.245	1.204	25.756	31.004	23.796	28.645	185.294	0.716	133.481	0.001	0.001	185.069	12.841	186.069	1.671	5.588	79.841	41.694	-0.214	1.898	255.224	0.000	0.000	0.000	0.000	15.502	155.022	155.022
154	5.000	16.404	-5.000	-16.404	135.812	0.729	3.580	0.537	9	6	9	7	6	124.097	0.957	0.726	0.231	7.409	1.200	26.022	31.214	23.416	28.089	185.897	0.541	134.856	-0.001	-0.001	186.062	13.000	187.062	1.593	4.249	80.035	41.727	-0.189	1.895	257.507	0.000	0.000	0.000	0.000	15.607	156.072	156.072
155	5.050	16.568	-5.050	-16.568	134.183	0.770	-5.870	0.574	9	6	9	7	6	124.097	0.967	0.731	0.236	7.573	1.195	25.710	30.733	23.313	27.868	182.366	0.578	133.217	-0.003	-0.003	182.941	12.872	183.941	1.616	4.626	79.589	41.652	-0.193	1.901	255.228	0.000	0.000	0.000	0.000	15.366	153.665	153.665
156	5.100	16.732	-5.100	-16.732	136.896	1.102	-10.240	0.805	9	6	9	7	6	124.097	0.977	0.736	0.241	7.737	1.191	26.229	31.246	24.506	29.194	184.787	0.811	135.919	-0.004	-0.004	185.549	13.145	186.549	1.704	6.190	80.064	41.731	-0.225	1.895	259.511	0.000	0.000	0.000	0.000	15.623	156.232	156.232
157	5.150	16.896	-5.150	-16.896	135.373	1.124	-4.310	0.830	9	6	9	7	6	124.097	0.987	0.741	0.247	7.902	1.187	25.937	30.793	24.349	28.907	181.455	0.836	134.386	-0.003	-0.003	181.969	12.982	182.969	1.718	6.451	79.645	41.662	-0.227	1.901	257.384	0.000	0.000	0.000	0.000	15.397	153.965	153.965
158	5.200	17.060	-5.200	-17.060	131.011	0.992	-11.080	0.757	9	6	9	6	6	124.097	0.998	0.746	0.252	8.066	1.183	25.102	29.700	23.448	27.743	174.360	0.763	130.014	-0.005	-0.005	175.161	12.584	176.161	1.703	6.179	78.609	41.489	-0.214	1.916	251.172	0.000	0.000	0.000	0.000	14.850	148.498	148.498
159	5.250	17.224	-5.250	-17.224	122.061	1.041	-12.580	0.853	9	6	9	6	6	124.097	1.008	0.751	0.257	8.230	1.179	23.387	27.577	22.295	26.289	161.251	0.860	121.054	-0.005	-0.005	162.116	11.731	163.116	1.762	7.320	76.484	41.135	-0.218	1.954	238.651	0.000	0.000	0.000	0.000	13.789	137.887	137.887
160	5.300	17.388	-5.300	-17.388	115.006	1.051	-13.510	0.914	8	6	9	6	6	120.915	1.018	0.756	0.262	8.394	1.175	27.544	32.373	21.309	25.046	150.849	0.922	113.988	-0.006	-0.006	151.753	11.058	152.753	1.802	8.164	74.683	40.835	-0.219	1.989	228.873	0.000	0.000	0.000	0.000	12.949	129.492	129.492
161	5.350	17.552	-5.350	-17.552	115.402	1.054	-12.430	0.913	8	6	9	6	6	120.915	1.028	0.761	0.267	8.558	1.172	27.639	32.382	21.381	25.050	150.406	0.922	114.375	-0.006	-0.006	151.267	11.093	152.267	1.802	8.159	74.691	40.836	-0.219	1.989	229.644	0.000	0.000	0.000	0.000	12.953	129.528	129.528
162	5.400	17.716	-5.400	-17.716	132.639	1.361	-11.350	1.026	8	6	9	6	6	120.915	1.038	0.766	0.272	8.722	1.168	31.767	37.102	24.487	28.600	171.975	1.034	131.602	-0.005	-0.005	172.793	12.741	173.793	1.792	7.947	78.591	41.486	-0.242	1.917	254.331	0.000	0.000	0.000	0.000	14.841	148.408	148.408
163	5.450	17.880	-5.450	-17.880	162.210	1.249	-11.170	0.770	9	6	9	7	6	124.097	1.048	0.770	0.277	8.886	1.164	31.079	36.183	28.444	33.114	209.258	0.775	161.163	-0.004	-0.004	210.070	15.573	211.070	1.643	5.094	84.268	42.432	-0.233	1.896	307.658	0.000	0.000	0.000	0.000	18.091	180.913	180.913
164	5.500	18.044	-5.500	-18.044	169.533	1.416	-10.770	0.835	9	6	9	7	6	124.097	1.058	0.776	0.282	9.051	1.160	32.482	37.692	29.840	34.626	217.325	0.840	168.475	-0.004	-0.004	218.123	16.273	219.123	1.655	5.289	85.440	42.627	-0.244	1.932	327.698	0.000	0.000	0.000	0.000	18.846	188.462	188.462
165	5.550	18.208	-5.550	-18.208	170.390	1.639	-8.070	0.962	9	6	9	7	6	124.097	1.068	0.781	0.288	9.215	1.157	32.647	37.760	30.430	35.196	217.001	0.968	169.322	-0.003	-0.003	217.693	16.347	218.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
211	7.850	25.754	-7.850	-25.754	479.171	7.941	43.380	1.657	9	6	10	7	8	124.097	1.532	1.009	0.523	16.765	1.017	91.809	93.393	84.164	85.616	473.498	1.663	477.639	0.002	0.002	472.674	45.775	473.674	1.648	5.180	0.000	0.000	46.962	-0.401	0.000	0.000	0.000	0.000	0.000	46.696	466.963	466.963
212	7.900	25.918	-7.900	-25.918	516.354	10.623	123.920	2.057	12	8	10	7	8	120.915	1.542	1.014	0.528	16.929	1.015	247.333	250.987	0.000	0.000	507.868	2.063	514.812	0.006	0.006	504.573	49.096	505.573	1.717	0.000	0.000	0.000	47.307	-0.445	0.000	0.000	0.000	0.000	0.000	50.197	501.974	501.974
213	7.950	26.082	-7.950	-26.082	463.728	10.389	108.540	2.240	12	8	10	7	8	120.915	1.552	1.019	0.533	17.093	1.012	222.126	224.875	0.000	0.000	453.795	2.248	462.176	0.006	0.006	450.992	44.101	451.992	1.771	0.000	0.000	0.000	46.783	-0.451	0.000	0.000	0.000	0.000	0.000	44.975	449.751	449.751
214	8.000	26.246	-8.000	-26.246	466.572	9.799	41.940	2.100	12	8	10	7	8	120.915	1.562	1.024	0.539	17.258	1.010	223.488	225.724	0.000	0.000	454.438	2.107	465.010	0.002	0.002	453.684	44.572	454.684	1.746	0.000	0.000	0.000	46.801	-0.438	0.000	0.000	0.000	0.000	0.000	45.145	451.447	451.447
215	8.050	26.410	-8.050	-26.410	476.650	2.373	23.990	0.498	10	7	10	7	8	127.279	1.572	1.029	0.544	17.422	1.008	76.105	76.677	73.172	73.722	461.993	0.499	475.078	0.000	0.000	461.793	45.591	462.793	1.223	0.000	0.000	0.000	46.891	-0.263	0.000	0.000	0.000	0.000	0.000	46.006	460.063	460.063
216	8.100	26.574	-8.100	-26.574	521.573	4.718	80.600	0.905	10	6	10	7	8	127.279	1.583	1.034	0.549	17.586	1.005	83.278	83.688	84.680	85.096	503.067	0.907	519.991	0.004	0.004	501.164	49.726	502.164	1.407	1.605	0.000	0.000	47.309	-0.329	0.000	0.000	0.000	0.000	0.000	50.213	502.126	502.126
217	8.150	26.739	-8.150	-26.739	552.998	1.139	52.480	0.206	10	7	10	7	8	127.279	1.593	1.039	0.554	17.750	1.002	88.295	88.502	77.847	78.030	530.728	0.207	551.405	0.002	0.002	529.684	52.820	530.684	0.917	0.000	0.000	0.000	47.576	-0.198	0.000	0.000	0.000	0.000	0.000	53.101	531.015	531.015
218	8.200	26.903	-8.200	-26.903	594.518	5.073	84.550	0.853	10	6	10	7	8	127.279	1.604	1.045	0.559	17.914	1.000	94.925	94.905	95.010	94.990	567.775	0.856	592.915	0.003	0.004	565.783	56.702	566.783	1.356	1.007	0.000	0.000	47.910	-0.334	0.000	0.000	0.000	0.000	0.000	56.943	569.429	569.429
219	8.250	27.067	-8.250	-27.067	617.941	1.153	33.740	0.187	10	7	10	7	8	127.279	1.614	1.050	0.564	18.078	0.997	98.665	98.394	85.539	85.304	587.204	0.187	616.327	0.001	0.001	586.738	59.098	587.738	0.855	0.000	0.000	0.000	48.082	-0.198	0.000	0.000	0.000	0.000	0.000	59.036	590.362	590.362
220	8.300	27.231	-8.300	-27.231	585.380	5.224	73.640	0.892	10	6	10	7	8	127.279	1.625	1.055	0.569	18.242	0.995	93.466	92.974	94.167	93.672	553.368	0.895	583.756	0.003	0.003	551.728	55.859	552.728	1.377	1.251	0.000	0.000	47.812	-0.337	0.000	0.000	0.000	0.000	0.000	55.784	557.843	557.843
221	8.350	27.395	-8.350	-27.395	650.243	9.326	11.750	1.434	9	6	10	7	8	124.097	1.635	1.061	0.574	18.406	0.992	124.587	123.627	110.022	109.175	611.836	1.438	648.609	-0.000	-0.000	612.032	62.258	613.032	1.536	3.359	0.000	0.000	48.302	-0.405	0.000	0.000	0.000	0.000	0.000	61.814	618.137	618.137
222	8.400	27.559	-8.400	-27.559	607.006	3.080	81.070	0.507	10	7	10	7	8	127.279	1.645	1.066	0.580	18.571	0.990	96.919	95.938	91.675	90.747	568.260	0.509	605.362	0.003	0.003	566.428	57.909	567.428	1.167	0.000	0.000	0.000	47.962	-0.283	0.000	0.000	0.000	0.000	0.000	57.563	575.628	575.628
223	8.450	27.723	-8.450	-27.723	620.052	0.789	69.160	0.127	10	7	10	7	8	127.279	1.656	1.071	0.585	18.735	0.987	99.002	97.756	84.013	82.956	577.612	0.128	618.397	0.003	0.003	576.142	59.194	577.142	0.774	0.000	0.000	0.000	48.051	-0.165	0.000	0.000	0.000	0.000	0.000	58.654	586.537	586.537
224	8.500	27.887	-8.500	-27.887	694.444	2.088	69.560	0.301	10	7	10	7	8	127.279	1.666	1.076	0.590	18.899	0.985	110.880	109.214	98.830	97.345	643.890	0.301	692.779	0.002	0.002	642.420	66.320	643.420	0.957	0.000	0.000	0.000	48.581	-0.247	0.000	0.000	0.000	0.000	0.000	65.528	655.283	655.283
225	8.550	28.051	-8.550	-28.051	759.883	1.075	22.930	0.141	10	7	10	7	8	127.279	1.677	1.082	0.595	19.063	0.983	121.328	119.211	101.510	99.739	701.235	0.142	758.207	0.000	0.000	701.123	72.728	702.123	0.719	0.000	0.000	0.000	48.999	-0.190	0.000	0.000	0.000	0.000	0.000	71.527	715.266	715.266
226	8.600	28.215	-8.600	-28.215	718.350	4.751	150.580	0.661	10	7	10	7	8	127.279	1.687	1.087	0.600	19.227	0.980	114.697	112.419	110.281	108.091	659.569	0.663	716.664	0.006	0.006	655.795	68.368	656.795	1.223	0.000	0.000	0.000	48.719	-0.321	0.000	0.000	0.000	0.000	0.000	67.451	674.514	674.514
227	8.650	28.379	-8.650	-28.379	672.100	9.458	44.930	1.407	9	6	10	7	8	124.097	1.697	1.092	0.605	19.391	0.978	128.774	125.917	113.316	110.802	614.062	1.411	670.404	0.001	0.001	613.332	64.253	614.332	1.525	3.197	0.000	0.000	48.390	-0.403	0.000	0.000	0.000	0.000	0.000	62.959	629.586	629.586
228	8.700	28.543	-8.700	-28.543	632.800	13.738	115.280	2.171	12	8	10	7	8	120.915	1.707	1.097	0.610	19.555	0.976	303.111	295.719	0.000	0.000	575.458	2.177	631.093	0.005	0.005	572.733	60.277	573.733	1.707	0.000	0.000	0.000	48.091	-0.470	0.000	0.000	0.000	0.000	0.000	59.144	591.438	591.438
229	8.750	28.707	-8.750	-28.707	615.345	2.904	71.320	0.472	10	7	10	7	8	127.279	1.718	1.102	0.615	19.720	0.973	98.250	95.634	92.290	89.833	556.965	0.473	613.628	0.003	0.003	555.503	58.737	556.503	1.143	0.000	0.000	0.000	47.946	-0.275	0.000	0.000	0.000	0.000	0.000	57.380	573.803	573.803
230	8.800	28.871	-8.800	-28.871	628.698	6.646	131.020	1.057	10	6	10	7	8	127.279	1.728	1.108	0.620	19.884	0.971	100.382	97.474	102.823	99.844	566.341	1.060	626.971	0.006	0.006	563.207	59.837	564.207	1.430	1.896	0.000	0.000	48.037	-0.358	0.000	0.000	0.000	0.000	0.000	58.484	584.844	584.844
231	8.850	29.035	-8.850	-29.035	677.529	11.731	54.360	1.731	9	8	10	7	8	124.097	1.738	1.113	0.626	20.048	0.969	129.815	125.760	0.000	0.000	607.594	1.736	675.792	0.002	0.002	606.631	64.745	607.631	1.607	0.000	0.000	0.000	48.384	-0.434	0.000	0.000	0.000	0.000	0.000	62.880	628.798	628.798
232	8.900	29.199	-8.900	-29.199	662.119	3.067	94.300	0.463	10	7	10	7	8	127.279	1.749	1.118	0.631	20.212	0.967	105.718	102.178	98.617	95.314	590.973	0.464	660.371	0.003	0.004	588.903	63.149	589.903	1.119	0.000	0.000	0.000	48.263	-0.278	0.000	0.000	0.000	0.000	0.000	61.307	613.068	613.068
233	8.950	29.363	-8.950	-29.363	626.426	6.510	169.090	1.039	10	6	10	7	8	127.279	1.759	1.123	0.636	20.376	0.964	100.019	96.441	102.318	98.657	556.373	1.042	624.667	0.007	0.007	552.238	59.506	553.238	1.426	1.844	0.000	0.000	47.987	-0.354	0.000	0.000	0.000	0.000	0.000	57.864	578.643	578.643
234	9.000	29.527	-9.000	-29.527	645.719	2.654	55.930	0.411	10	7	10	7	8	127.279	1.770	1.129	0.641	20.540	0.962	103.100	99.176	95.287	91.661	570.844	0.412	643.950	0.002	0.002	569.864	61.693	570.864	1.087	0.000	0.000	0.000	48.120	-0.264	0.000	0.000	0.000	0.000	0.000	59.506	595.058	595.058
235	9.050	29.691	-9.050	-29.691	579.416	4.385	190.050	0.757	10	6	10	7	8	127.279	1.780	1.134	0.646	20.704	0.960	92.513	88.784	91.807	88.106	509.656	0.759	577.637	0.009	0.009	504.992	54.940	505.992	1.328	0.699	0.000	0.000	47.591	-0.311	0.000	0.000	0.000	0.000	0.000	53.270	532.703	532.703
236	9.100	29.855	-9.100	-29.855	617.381	1.285	22.620	0.208	10	7	10	7	8	127.279	1.790	1.139	0.651	20.869	0.957	98.575	94.380	86.446	82.767	540.607	0.209	615.592	0.000	0.000	540.559	59.077	541.559	0.897	0.000	0.000	0.000	47.883	-0.201	0.000	0.000	0.000	0.000	0.000	56.628	566.279	566.279
237	9.150	30.019	-9.150	-30.019	656.202	0.650	50.030	0.099	10	0	10	7	0	127.279	1.801	1.144	0.656	21.033	0.955	104.774	100.081	0.000	0.000	572.019	0.099	654.402	0.001	0.001	571.227	62.715	572.227	0.725	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	60.049	600.487	600.487
238	9.200	30.183	-9.200	-30.183	701.643	4.411	29.360	0.629	10	7	10	7	8	127.279	1.811	1.150	0.661	21.197	0.953	112.029	106.764	107.508	102.455	608.899	0.630	699.833	0.000	0.000	608.677	67.130	609.677	1.216	0.000	0.000	0.000	48.472	-0.310	0.000	0.000	0.000	0.000	0.000	64.058	640.582	640.582
239	9.250	30.347	-9.250	-30.347	799.759	2.801	47.960	0.350	10	7	10	7	8	127.279	1.822	1.155	0.667	21.361	0.951	127.695	121.413	114.451	108.820	691.060	0.351	797.938	0.001	0.001	690.340	76.474	691.340	0.977	0.000	0.000	0.000	49.087	-0.267	0.000	0.000	0.000	0.000	0.000	72.848	728.476	728.476
240	9.300	30.511	-9.300	-30.511	731.705	7.310	306.740	0.999	10	6	10	7	8	127.279	1.832	1.160	0.672	21.525	0.949	116.829	110.826	117.870	111.814	629.214	1.002	729.873	0.012	0.012	621.538	69.180	622.538	1.382	1.304	0.000	0.000	48.651	-0.360	0.000	0.000	0.000	0.000	0.000	66.496	664.958	664.958
241	9.350	30.675	-9.350	-30.675	721.397	12.240	28.370	1.697	9	8	10	7	8	124.097	1.842	1.166	0.677	21.689	0.947	138.220	130.826	0.000	0.000	617.557	1.701	719.555	0.000	0.000	617.377	69.025	618.377	1.591	0.000	0.000	0.000	48.572	-0.432	0.000	0.000	0.000	0.000	0.000	65.413	654.129	654.129
242	9.400	30.840	-9.400	-30.840	668.183	15.102	74.110	2.260	12	8	10	7	8	120.915	1.853	1.171	0.682	21.853	0.945	320.059	302.300	0.000	0.000	569.469	2.266	666.331	0.002	0.002	568.074	63.790	569.074	1.719	0.000	0.000	0.000	48.196	-0.478	0.000	0.000	0.000	0.000	0.000	60.460	604.600	604.600
243	9.450	31.004	-9.450	-31.004	626.110	2.355	72.060	0.376	10	7	10	7	8	127.279	1.863	1.176	0.687	22.018	0.942	99.969	94.218	92.015	86.722	531.207	0.377	624.248	0.002	0.003	529.878	59.766	530.878	1.072	0.000	0.000	0.000	47.875	-0.250	0.000	0.000	0.000	0.000	0.000	56.531	565.310	565.310
244	9.500	31.168	-9.500	-31.168	598.684	6.421	67.860	1.073	9	6	10	7	8	124.097	1.873	1.181	0.692	22.182	0.940	114.708	107.872	98.635	92.757	505.628	1.076	596.811	0.002	0.002	504.419	57.151	505.419	1.453	2.196	0.000	0.000	47.651	-0.349	0.000	0.000	0.000	0.000	0.000	53.936	539.358	539.358
245	9.550	31.332	-9.550	-31.332	660.474	11.321	19.920	1.714	9	8	10	7	8	124.097	1.883	1.186	0.697	22.346	0.938	126.547	118.751	0.000	0.000	555.589	1.719	658.592	-0.000	-0.000	555.652	63.214	556.652	1.613	0.000	0.000	0.000	48.110	-0.423	0.000	0.000	0.000	0.000	0.000	59.375	593.755	593.755
246	9.600	31.496	-9.600	-31.496	665.799	5.354	47.940	0.804	10	6	10	7	8	127.279	1.894	1.191	0.702	22.510	0.936	106.306	99.539	105.338	98.633	557.632	0.806	663.907	0.001	0.001	556.964	63.640	557.964	1.323	0.647	0.000	0.000	48.138	-0.326	0.000	0.000	0.000	0.000	0.000	59.724	597.236	597.236
247	9.650	31.660	-9.650	-31.660	658.282	6.862	78.870	1.042	10	6	10	7	8	127.279	1.904	1.196	0.708	22.674	0.934	105.106	98.197	107.430	100.368	548.857	1.045	656.379	0.003	0.003	547.390	62.828	548.390	1.423	1.810	0.000	0.000	48.073	-0.353	0.000	0.000	0.000	0.000	0.000	58.918	589.179	589.179
248	9.700	31.824	-9.700	-31.824	623.618	9.923	39.790	1.591	9	6	10	7	8	124.097	1.914	1.202	0.713	22.838	0.932	119.485	111.389	107.654	100.359	517.618	1.596	621.705	0.001	0.001	517.177	59.624	518.177	1.597	4.308	0.000	0.000	47.804	-0.404	0.000	0.000	0.000	0.000	0.000	55.695	556.947	556.947
249	9.750	31.988	-9.750	-31.988	642.638	1.688	54.070	0.263	10	7	10	7	8	127.279	1.925	1.207	0.718	23.002	0.930	102.608	95.450	91.478	85.096	531.150	0.263	640.714	0.002	0.002	530.346	61.403	531.346	0.958	0.000	0.000	0.000	47.937	-0.219	0.000	0.000	0.000	0.000	0.000	57.270	572.698	572.698
250	9.800	32.152	-9.800	-32.152	655.709	3.323	62.300	0.507	10	7	10	7	8	127.279	1.935	1.212	0.723	23.167	0.928	104.695	97.177	98.923	91.819	539.598	0.508	653.775	0.002	0.002	538.590	62.631	539.590	1.163	0.000	0.000	0.000	48.023	-0.278	0.000	0.000	0.000	0.000	0.000	58.306	583.062	583.062
251	9.850	32.316	-9.850	-32.316	615.320	6.976	19.190	1.134	9	6	10	7	8	124.097	1.945	1.217	0.728	23.331	0.926	117.895	109.196	101.965	94.441	504.096	1.137	613.375	-0.000	-0.000	504.202	58.890	505.202	1.471	2.439	0.000	0.000	47.709	-0.355	0.000	0.000	0.000	0.000	0.000	54.598	545.980	545.980
252	9.900	32.480	-9.900	-32.480	651.076	0.761	37.800	0.117	10	7	10	7	8	127.279	1.956	1.222	0.733	23.495	0.924	103.955	96.080	88.038	81.368	531.208	0.117	649.121	0.001	0.001	530.842	62.260	531.842	0.766	0.000	0.000	0.000	47.969	-0.151	0.000	0.000	0.000	0.000	0.000	57.648	576.480	576.480
253	9.950	32.644	-9.950	-32.644	644.537	4.333	79.540	0.672	10	7	10	7	8	127.279	1.966	1.228	0.738	23.659	0.922	102.911	94.909	100.322	92.521	523.569	0.674	642.571	0.003	0.003	522.148	61.509	523.148	1.269	0.097	0.000	0.000	47.910	-0.302	0.000	0.000	0.000	0.000	0.000	56.945	569.452	569.452
254	10.000	32.808	-10.000	-32.808	689.359	7.923	25.480	1.149	9	6	10	7	8	124.097	1.976	1.233	0.743	23.823	0.920	132.081	121.554	113.598	104.544	557.725	1.153	687.383	0.000	0.000	557.683	65.964	558.683	1.454	2.205	0.000	0.000	48.221	-0.367	0.000	0.000	0.000	0.000	0.000	60.777	607.769	607.769
255	10.050	32.972	-10.050	-32.972	614.673	12.790	130.310	2.081	12	8	10	7	8	120.915	1.986	1.238	0.749	23.987	0.918	294.429	270.422	0.000	0.000	495.140	2.088	612.688	0.005	0.005	492.457	58.496	493.457	1.707	0.000	0.000	0.000	47.664	-0.445	0.000	0.000	0.000	0.000	0.000	54.084	540.843	540.843
256	10.100	33.136	-10.100	-33.136	648.120	1.131	78.560	0.175	10	7	10	7	8	127.279	1.997	1.243	0.754	24.151	0.917	103.483	94.852	89.646	82.168	520.036	0.175	646.125	0.003	0.003	518.669	61.855	519.669	0.852	0.000	0.000	0.000	47.907	-0.182	0.000	0.000	0.000	0.000	0.000	56.911	569.111	569.111
257	10.150	33.300	-10.150	-33.300	657.894	2.955	82.300	0.449	10	7	10	7	8	127.279	2.007	1.248	0.759	24.315	0.915	105.044	96.077	98.163	89.784	525.644	0.451	655.888	0.003	0.003	524.193	62.780	525.193	1.125	0.000	0.000	0.000	47.968	-0.265	0.000	0.000	0.000	0.000	0.000	57.646	576.460	576.460
258	10.200	33.464	-10.200	-33.464	701.805	7.165	28.080	1.021	10	6	10	7	8	127.279	2.018	1.254	0.764	24.480	0.913	112.055	102.272	113.941	103.993	558.447	1.024	699.789	0.000	0.000	558.357	67.149	559.357	1.407	1.605	0.000	0.000	48.267	-0.353	0.000	0.000	0.000	0.000	0.000	61.363	613.630	613.630
259	10.250	33.628	-10.250	-33.628	685.590	0.663	56.100	0.097	10	0	10	7	0	127.279	2.028	1.259	0.769	24.644	0.911	109.466	99.697	0.000	0.000	543.193	0.097	683.563	0.001	0.001	542.412	65.512	543.412	0.723	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	59.818	598.184	598.184
260	10.300	33.792	-10.300	-33.792	654.237	2.651	39.590	0.405	10	7	10	7	8	127.279	2.038	1.264	0.774	24.808	0.909	104.460	94.938	96.755	87.935	516.089	0.406	652.200	0.001	0.001	515.723	62.558	516.723	1.094	0.000	0.000	0.000	47.911	-0.254	0.000	0.000	0.000	0.000	0.000	56.963	569.626	569.626
261	10.350	33.956	-10.350	-33.956	702.576	7.171	23.440	1.021	10	6	10	7	8	127.279	2.049	1.270	0.779	24.972	0.907	112.178	101.738	114.102	103.484	552.008	1.024	700.528	-0.000	-0.000	552.046	67.237	553.046	1.408	1.617	0.000	0.000	48.242	-0.352	0.000	0.000	0.000	0.000	0.000	61.043	610.431	610.431
262	10.400	34.120	-10.400	-34.120	685.549	11.944	52.690	1.742	9	8	10	7	8	124.097	2.059	1.275	0.784	25.136	0.905	131.351	118.885	0.000	0.000	536.390	1.748	683.491	0.001	0.001	535.715	65.518	536.715	1.620	0.000	0.000	0.000	48.115	-0.422	0.000	0.000	0.000	0.000	0.000	59.442	594.423	594.423
263	10.450	34.284	-10.450	-34.284	648.638	2.800	70.240	0.432	10	7	10	7	8	127.279	2.069	1.280	0.790	25.300	0.903	103.566	93.546	96.619	87.272	505.358	0.433	646.570	0.002	0.002	504.261	61.930	505.261	1.119	0.000	0.000	0.000	47.841	-0.258	0.000	0.000	0.000	0.000	0.000	56.128	561.277	561.277
264	10.500	34.448	-10.500	-34.448	642.002	7.554	75.540	1.177	9	6	10	7	8	124.097	2.080	1.285	0.795	25.464	0.901	123.008	110.882	106.754	96.231	498.143	1.180	639.923	0.002	0.002	496.926	61.278	497.926	1.482	2.587	0.000	0.000	47.782	-0.359	0.000	0.000	0.000	0.000	0.000	55.441	554.411	554.411
265	10.550	34.612	-10.550	-34.612	686.730	1.151	38.490	0.168	10	7	10	7	8	127.279	2.090	1.290	0.800	25.629	0.900	109.648	98.641	94.387	84.912	530.810	0.168	684.641	0.001	0.001	530.498	65.674	531.498	0.828	0.000	0.000	0.000	48.094	-0.181	0.000	0.000	0.000	0.000	0.000	59.184	591.844	591.844
266	10.600	34.776	-10.600	-34.776	670.745	3.796	84.080	0.566	10	7	10	7	8	127.279	2.101	1.296	0.805	25.793	0.898	107.096	96.146	102.422	91.951	516.279	0.568	668.645	0.003	0.003	514.874	64.006	515.874	1.205	0.000	0.000	0.000	47.972	-0.285	0.000	0.000	0.000	0.000	0.000	57.688	576.879	576.879
267	10.650	34.941	-10.650	-34.941	783.322	1.726	16.360	0.220	10	7	10	7	8	127.279	2.111	1.301	0.810	25.957	0.896	125.070	112.054	108.442	97.156	600.728	0.221	781.212	-0.000	-0.000	600.958	74.993	601.958	0.855	0.000	0.000	0.000	48.703	-0.215	0.000	0.000	0.000	0.000	0.000	67.232	672.323	672.323
268	10.700	35.105	-10.700	-35.105	767.166	0.775	69.860	0.101	10	7	10	7	8	127.279	2.121	1.306	0.815	26.121	0.894	122.491	109.519	101.730	90.956	585.900	0.101	765.046	0.002	0.002	584.855	73.286	585.855	0.690	0.000	0.000	0.000	48.594	-0.147	0.000	0.000	0.000	0.000	0.000	65.711	657.114	657.114
269	10.750	35.269	-10.750	-35.269	780.802	4.278	34.000	0.548	10	7	10	7	8	127.279	2.132	1.312	0.820	26.285	0.892	124.668	111.239	117.566	104.902	593.917	0.549	778.671	0.000	0.000	593.732	74.699	594.732	1.157	0.000	0.000	0.000	48.669	-0.294	0.000	0.000	0.000	0.000	0.000	66.744	667.436	667.436
270	10.800	35.433	-10.800	-35.433	812.212	10.635	41.890	1.309	9	6	10	7	8	124.097	2.142	1.317	0.825	26.449

ConeTec CPT Interpretations	
Interpretation Output - SCREENzW Version 0.99.98X - Mar 8 2011	
DAS Version: W47	
Interpretation Format:	All but Liquefaction Parameters (NLI)
Run ID:	1347638926
Job No:	12-972
Client:	TertaTech
Project:	Dump Road
Facility:	Dump Road
Sounding ID:	DR-CPT-20
Cone ID:	167:T1500F15U500
Operator:	TS-TW
CPT Date:	Aug-28-2012
CPT Time:	10:41
CPT File:	972CP20.COR
Tip Units:	tsf
Sleeve Units:	tsf
PP Units:	ft
Tip Conversion to bar:	0.9580
Sleeve Conversion to bar:	0.9580
PP Conversion to meters:	0.3050
Col 5 (Extra Module) Parameter	N/A
Col 5 (Extra Module) Units	N/A
Coord Source:	
Coord Type:	
UTM Zone:	N/A
Easting / Long:	76.409180
Northing / Lat:	39.326050
Elevation:	0.000
Tip Net Area Ratio:	0.80
Unit Weight of Soil Base:	Based on Soil Zones

Unit Weight of Soil (Def):	18.64	kN/m^3	118.62	pcf	
Unit Weight of Water:	9.81	kN/m^3	62.43	pcf	
Equilibrium U Profile Used:	No				
Soil Unit Weight Profile Used:	No				
Water Table	1.52	m	5.00	ft	
Averaging Interval:	0.00	m	0.00	ft	
Su Factors Nkt and Ndu:	15.0	8.0			
Cn Exp. and Limits:	0.50	0.00	1.70		
Qc1 Exp. and Limits:	0.50	0.00	1.70		
State Parameter M:	1.20				
NC Su / p':	0.30				

Relative Density Method:	All Sands - Jamilokowski (1985)
Phi Angle Method:	Kulhawy and Mayne (1990)
Youngs Modulus Sand Type:	Recent
N160lc Method:	Based on qc1n

Depth	Depth	Elev	Elev	Avg qt	Avg fs	Avg u	Avg Rf	SBT	SBTn	SBT Bq	SBT Bqn	SBT JandD	Unit Wt.	TStress	EStress	Equil u	Equil u	Cn	N(60)	N1(60)	N60 (Ic)	N160 (Ic)	Norm: Qt	Norm: Fr	Net qt	Delta U/qt	Bq	Q(1-Bq)	qe	qeNorm	Ic	FC	Dr	Phi	State Parm	Es/qt	Es	Su (Nkt)	Su (Ndu)	OCR	qc1 (Cn)	qc1	qc1n
m	ft	m	ft	tsf	tsf	ft	%						pcf	tsf	tsf	tsf	ft		bpf	bpf	bpf	bpf		%	tsf				MPa			%	%	deg			tsf	tsf	tsf		MPa		
0.050	0.164	-0.050	-0.164	6.723	0.089	0.500	1.324	1	6	5	7	8	111.369	0.009	0.009	0.000	0.000	1.700	3.220	5.475	1.912	3.250	735.086	1.326	6.714	0.002	0.002	733.377	0.643	734.377	2.777	44.661	56.579	29.033	-0.412	0.000	0.000	0.000	0.000	1.095	10.949	10.949
0.100	0.328	-0.100	-0.328	19.003	0.217	13.320	1.142	6	0	6	0	0	114.551	0.018	0.018	0.000	0.000	1.700	7.282	12.379	0.000	0.000	1031.909	1.143	18.985	0.022	0.022	1009.310	1.781	1010.310	2.356	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.095	30.949	30.949
0.150	0.492	-0.150	-0.492	23.694	0.304	5.500	1.283	6	6	7	7	8	114.551	0.028	0.028	0.000	0.000	1.700	9.080	15.435	5.353	9.100	851.551	1.285	23.667	0.007	0.007	845.374	2.253	846.374	2.305	22.709	76.737	35.051	-0.421	3.346	79.322	0.000	0.000	3.859	38.589	38.589
0.200	0.656	-0.200	-0.656	28.858	0.344	1.210	1.192	7	6	7	7	8	117.733	0.037	0.037	0.000	0.000	1.700	9.215	15.666	6.278	10.672	772.302	1.194	28.820	0.001	0.001	771.290	2.761	772.290	2.217	19.564	78.165	35.993	-0.403	3.036	87.643	0.000	0.000	4.700	46.997	46.997
0.250	0.820	-0.250	-0.820	29.986	0.366	0.930	1.221	7	6	7	7	8	117.733	0.047	0.047	0.000	0.000	1.700	9.575	16.278	6.503	11.055	637.364	1.222	29.939	0.001	0.001	636.746	2.870	637.746	2.209	19.314	75.966	36.176	-0.387	2.977	89.306	0.000	0.000	4.883	48.835	48.835
0.300	0.984	-0.300	-0.984	30.347	0.442	4.340	1.456	6	6	7	7	8	114.551	0.057	0.057	0.000	0.000	1.700	11.629	19.769	6.700	11.390	536.137	1.459	30.291	0.004	0.004	533.739	2.894	534.739	2.252	20.774	73.663	36.233	-0.394	2.959	89.829	0.000	0.000	4.942	49.423	49.423
0.350	1.148	-0.350	-1.148	27.012	0.529	1.920	1.958	6	8	7	7	8	114.551	0.066	0.066	0.000	0.000	1.700	10.351	17.597	0.000	0.000	408.940	1.963	26.946	0.002	0.002	408.031	2.582	409.031	2.372	0.000	68.122	35.677	-0.413	3.139	84.819	0.000	0.000	4.399	43.992	43.992
0.400	1.312	-0.400	-1.312	28.146	0.642	-0.570	2.281	6	8	7	7	8	114.551	0.075	0.075	0.000	0.000	1.700	10.786	18.336	0.000	0.000	372.855	2.287	28.071	-0.001	-0.001	373.091	2.698	374.091	2.401	0.000	67.391	35.874	-0.433	3.074	86.572	0.000	0.000	4.584	45.839	45.839
0.450	1.476	-0.450	-1.476	29.993	0.683	2.070	2.277	6	8	7	7	8	114.551	0.085	0.085	0.000	0.000	1.700	11.493	19.539	0.000	0.000	353.185	2.284	29.908	0.002	0.002	352.422	2.867	353.422	2.380	0.000	67.527	36.177	-0.426	2.977	89.316	0.000	0.000	4.885	48.846	48.846
0.500	1.640	-0.500	-1.640	31.073	0.829	0.510	2.668	6	8	7	7	8	114.551	0.094	0.094	0.000	0.000	1.700	11.907	20.242	0.000	0.000	329.298	2.676	30.979	0.001	0.001	329.129	2.975	330.129	2.415	0.000	67.033	36.346	-0.455	2.923	90.869	0.000	0.000	5.061	50.606	50.606
0.550	1.804	-0.550	-1.804	35.500	0.777	1.620	2.189	6	8	7	7	8	114.551	0.104	0.104	0.000	0.000	1.700	13.604	23.126	0.000	0.000	342.093	2.195	35.397	0.001	0.001	341.604	3.396	342.604	2.314	0.000	69.487	36.982	-0.415	2.730	96.953	0.000	0.000	5.782	57.815	57.815
0.600	1.968	-0.600	-1.968	51.101	1.265	1.780	2.475	6	8	8	7	8	114.551	0.113	0.113	0.000	0.000	1.700	19.582	33.289	0.000	0.000	451.762	2.481	50.988	0.001	0.001	451.269	4.890	452.269	2.238	0.000	78.682	38.723	-0.473	2.301	117.639	0.000	0.000	8.322	83.223	83.223
0.650	2.133	-0.650	-2.133	65.771	1.712	4.950	2.603	6	8	8	7	8	114.551	0.122	0.122	0.000	0.000	1.700	25.203	42.846	0.000	0.000	536.960	2.608	65.649	0.002	0.002	535.696	6.286	536.696	2.180	0.000	84.770	39.928	-0.506	2.104	138.422	0.000	0.000	10.711	107.114	107.114
0.700	2.297	-0.700	-2.297	96.699	2.277	39.810	2.355	7	8	9	7	8	117.733	0.132	0.132	0.000	0.000	1.700	30.879	52.494	0.000	0.000	732.760	2.358	96.567	0.013	0.013	723.331	9.145	724.331	2.039	0.000	94.743	41.770	-0.515	1.892	183.036	0.000	0.000	15.748	157.483	157.483
0.750	2.461	-0.750	-2.461	94.271	2.547	-4.670	2.702	6	8	9	7	8	114.551	0.141	0.141	0.000	0.000	1.700	36.125	61.412	0.000	0.000	666.121	2.706	94.130	-0.002	-0.002	667.152	9.045	668.152	2.092	0.000	93.014	41.648	-0.543	1.902	179.345	0.000	0.000	15.353	153.530	153.530
0.800	2.625	-0.800	-2.625	98.943	2.440	13.250	2.466	7	8	9	7	8	117.733	0.151	0.151	0.000	0.000	1.700	31.596	53.713	0.000	0.000	654.966	2.470	98.792	0.004	0.004	652.224	9.439	653.224	2.048	0.000	93.465	41.879	-0.515	1.885	186.596	0.000	0.000	16.114	161.138	161.138
0.850	2.789	-0.850	-2.789	128.042	2.195	105.990	1.714	8	8	9	7	8	120.915	0.161	0.161	0.000	0.000	1.700	30.666	52.132	0.000	0.000	796.166	1.716	127.881	0.026	0.026	775.569	11.949	776.569	1.855	0.000	0.000	43.111	-0.457	0.000	0.000	0.000	0.000	20.853	208.529	208.529
0.900	2.953	-0.900	-2.953	127.773	2.281	2.140	1.785	8	8	9	7	8	120.915	0.171	0.171	0.000	0.000	1.700	30.602	52.023	0.000	0.000	748.239	1.788	127.603	0.001	0.001	747.847	12.234	748.847	1.869	0.000	0.000	43.101	-0.461	0.000	0.000	0.000	0.000	20.809	208.092	208.092
0.950	3.117	-0.950	-3.117	99.865	1.784	-0.740	1.786	7	8	9	7	8	117.733	0.180	0.180	0.000	0.000	1.700	31.890	54.214	0.000	0.000	552.812	1.790	99.685	-0.000	-0.000	552.940	9.569	553.940	1.937	0.000	91.172	41.924	-0.429	1.883	188.112	0.000	0.000	16.264	162.641	162.641
1.000	3.281	-1.000	-3.281	79.552	1.545	0.290	1.942	7	8	9	7	8	117.733	0.190	0.190	0.000	0.000	1.700	25.404	43.186	0.000	0.000	417.740	1.947	79.362	0.000	0.000	417.692	7.620	418.692	2.030	0.000	83.906	40.837	-0.414	1.989	158.293	0.000	0.000	12.956	129.558	129.558
1.050	3.445	-1.050	-3.445	66.980	1.589	0.040	2.372	6	8	8	7	8	114.551	0.200	0.200	0.000	0.000	1.700	25.667	43.634	0.000	0.000	334.734	2.379	66.781	0.000	0.000	334.727	6.417	335.727	2.145	0.000	78.275	40.015	-0.429	2.092	140.177	0.000	0.000	10.908	109.084	109.084
1.100	3.609	-1.100	-3.609	58.601	1.739	1.780	2.968	6	8	8	7	8	114.551	0.209	0.209	0.000	0.000	1.700	22.456	38.175	0.000	0.000	279.524	2.978	58.392	0.001	0.001	279.258	5.609	280.258	2.256	0.000	73.784	39.377	-0.464	2.185	128.104	0.000	0.000	9.544	95.438	95.438
1.150	3.773	-1.150	-3.773	52.107	1.944	1.130	3.731	5	8	8	7	8	114.551	0.218	0.218	0.000	0.000	1.700	24.959	42.431	0.000	0.000	237.702	3.746	51.889	0.001	0.001	237.540	4.988	238.540	2.365	0.000	69.787	38.816	-0.524	2.283	119.017	0.000	0.000	8.486	84.862	84.862
1.200	3.937	-1.200	-3.937	47.924	1.853	-2.600	3.867	5	8	8	7	8	114.551	0.228	0.228	0.000	0.000	1.700	22.955	39.024	0.000	0.000	209.480	3.885	47.696	-0.002	-0.002	209.837	4.599	210.837	2.401	0.000	66.785	38.416	-0.522	2.364	113.340	0.000	0.000	7.805	78.049	78.049
1.250	4.101	-1.250	-4.101	51.303	2.021	5.300	3.939	5	8	8	7	8	114.551	0.237	0.237	0.000	0.000	1.700	24.574	41.776	0.000	0.000	215.393	3.958	51.066	0.003	0.003	214.696	4.899	215.696	2.387	0.000	68.158	38.742	-0.535	2.297	117.915	0.000	0.000	8.355	83.552	83.552
1.300	4.265	-1.300	-4.265	52.677	2.013	-3.750	3.821	5	8	8	7	8	114.551	0.247	0.247	0.000	0.000	1.700	25.232	42.895	0.000	0.000	212.718	3.839	52.430	-0.002	-0.002	213.193	5.058	214.193	2.370	0.000	68.359	38.868	-0.519	2.273	119.800	0.000	0.000	8.579	85.789	85.789
1.350	4.429	-1.350	-4.429	44.228	1.974	1.360	4.463	4	9	8	6	8	114.551	0.256	0.256	0.000	0.000	1.700	28.247	48.020	0.000	0.000	171.854	4.489	43.973	0.001	0.001	171.688	4.233	172.688	2.471	0.000	62.812	38.033	-0.569	2.451	108.433	0.000	0.000	7.203	72.031	72.031
1.400	4.593	-1.400	-4.593	40.669	1.746	-0.150	4.293	4	9	8	6	8	114.551	0.265	0.265	0.000	0.000	1.700	25.974	44.156	0.000	0.000	152.314	4.321	40.404	-0.000	-0.000	152.332	3.897	153.332	2.482	0.000	59.890	37.632	-0.527	2.550	103.765	0.000	0.000	6.623	66.234	66.234
1.450	4.757	-1.450	-4.757	34.533	1.459	-2.690	4.225	4	9	7	6	8	114.551	0.275	0.275	0.000	0.000	1.700	22.055	37.494	0.000	0.000	124.730	4.259	34.259	-0.002	-0.002	125.036	3.316	126.036	2.525	0.000	54.704	36.851	-0.487	2.769	95.654	0.000	0.000	5.624	56.241	56.241
1.500	4.921	-1.500	-4.921	35.943	1.101	3.690	3.063	5	5	7	6	8	114.551	0.284	0.284	0.000	0.000	1.700	17.217	29.268	8.520	14.484	125.535	3.088	35.659	0.003	0.003	125.130	3.432	126.130	2.413	26.935	55.369	37.042	-0.372	2.713	97.544	0.000	0.000	5.854	58.537	58.537
1.550	5.085	-1.550	-5.085	30.036	1.038	8.910	3.456	5	5	7	6	8	114.551	0.294	0.291	0.003	0.085	1.700	14.387	24.458	7.435	12.639	102.281	3.490	29.742	0.009	0.009	101.334	2.851	102.334	2.506	30.933	49.886	36.184	-0.378	2.975	89.378	0.000	0.000	4.892	48.916	48.916
1.600	5.249	-1.600	-5.249	28.176	0.954	4.120	3.386	5	5	7	6	4	114.551	0.303	0.295	0.008	0.249	1.700	13.496	22.943	7.021	11.936	94.464	3.423	27.873	0.004	0.004	94.055	2.687	95.055	2.519	31.561	47.845	35.879	-0.362	3.073	86.616	0.000	0.000	4.589	45.887	45.887
1.650	5.413	-1.650	-5.413	21.492	0.705	1.870	3.280	5	5	7	6	4	114.551	0.312	0.299	0.013	0.414	1.700	10.295	17.501	5.563	9.457	70.755	3.329	21.179	0.002	0.002	70.603	2.053	71.603	2.597	35.213	39.877	34.585	-0.316	3.502	75.286	0.000	0.000	3.500	35.001	35.001
1.700	5.577	-1.700	-5.577	20.515	0.538	16.890	2.622	5	5	6	6	4	114.551	0.322	0.304	0.018	0.578	1.700	9.827	16.706	5.185	8.814	66.512	2.664	20.194	0.025	0.025	64.835	1.915	65.835	2.549	32.902	38.341	34.363	-0.259	3.575	73.376	0.000	0.000	3.341	33.411	33.411
1.750	5.741	-1.750	-5.741	23.553	0.542	8.470	2.301	6	5	7	6	5	114.551	0.331	0.308	0.023	0.742	1.700	9.025	15.343	5.721	9.726	75.424	2.334	23.222	0.010	0.010	74.640	2.231	75.640	2.466	29.173	42.098	35.022	-0.254	3.356	79.073	0.000	0.000	3.836	38.358	38.358
1.800	5.905	-1.800	-5.905	17.936	0.517	4.180	2.882	5	5	6	6	4	114.551	0.341	0.312	0.028	0.906	1.700	8.591	14.605	4.698	7.986	56.367	2.938	17.596	0.006	0.006	56.040	1.706	57.040	2.621	36.371	34.092	33.721	-0.259	0.000	0.000	0.000	0.000	2.921	29.211	29.211
1.850	6.069	-1.850	-6.069	15.884	0.469	7.020	2.953	5	4	6	6	4	114.551	0.350	0.317	0.033	1.070	1.700	7.608	12.934	4.264	7.249	49.091	3.019	15.534	0.012	0.012	48.504	1.501	49.504	2.669	38.811	30.414	33.140	-0.246	0.000	0.000	0.000	0.000	2.587	25.868	25.868
1.900	6.234	-1.900	-6.234	17.912	0.421	6.750	2.350	5	5	6	6	4	114.551	0.359	0.321	0.039	1.234	1.700	8.580	14.586	4.564	7.758	54.732	2.398	17.553	0.010	0.010	54.195	1.696	55.195	2.565	33.681	33.666	33.715	-0.222	0.000	0.000	0.000	0.000	2.917	29.172	29.172
1.950	6.398	-1.950	-6.398	16.254	0.406	5.500	2.498	5	5	6	6	4	114.551	0.369	0.325	0.044	1.398	1.700	7.786	13.236	4.246	7.218	48.882	2.556	15.886	0.008	0.008	48.488	1.541	49.488	2.615	36.110	30.693	33.251	-0.218	0.000	0.000	0.000	0.000	2.647	26.472	26.472
2.000	6.562	-2.000	-6.562	15.621	0.429	3.390	2.746	5	4	6	6	4	114.551	0.378	0.329	0.049	1.563	1.700	7.483	12.720	4.164	7.078	46.295	2.814	15.243	0.004	0.004	46.122	1.486	47.122	2.655	38.106	0.000	33.061	-0.227	0.000	0.000	0.000	0.000	2.544	25.441	25.441

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
95	2.050	6.726	-2.050	-6.726	10.536	0.410	4.100	3.892	3	4	6	5	3	111.369	0.387	0.334	0.054	1.727	1.700	10.093	17.158	2.873	8.663	30.439	4.040	10.148	0.007	0.007	30.216	0.997	31.216	2.699	40.377	0.000	31.179	-0.245	0.000	0.000	0.000	0.000	0.000	0.000	1.716	17.158	30.439
96	2.100	6.890	-2.100	-6.890	9.799	0.385	6.240	3.929	3	4	5	5	3	111.369	0.397	0.338	0.059	1.891	1.700	9.387	15.959	2.718	8.068	27.866	4.095	9.403	0.014	0.014	27.464	0.920	28.464	2.731	42.113	0.000	30.833	-0.233	0.000	0.000	0.000	0.000	0.000	0.000	1.596	15.959	27.866
97	2.150	7.054	-2.150	-7.054	8.044	0.552	5.380	6.863	3	3	5	5	3	111.369	0.406	0.342	0.064	2.055	1.700	7.706	13.100	2.558	7.425	22.371	7.227	7.638	0.013	0.014	22.067	0.754	23.067	2.969	56.452	0.000	0.000	0.000	0.000	0.000	0.509	0.013	8.449	1.310	13.100	22.371
98	2.200	7.218	-2.200	-7.218	11.648	0.448	9.350	3.846	3	4	6	5	3	111.369	0.415	0.346	0.069	2.219	1.700	11.159	18.971	3.135	9.136	32.520	3.988	11.234	0.019	0.020	31.875	1.088	32.875	2.674	39.068	0.000	31.659	-0.249	0.000	0.000	0.000	0.000	0.000	0.000	1.897	18.971	32.520
99	2.250	7.382	-2.250	-7.382	26.097	1.289	4.310	4.939	3	9	7	6	8	111.369	0.424	0.350	0.074	2.383	1.700	25.001	42.501	0.000	0.000	73.466	5.021	25.673	0.002	0.002	73.294	2.487	74.294	2.661	0.000	43.223	35.512	-0.491	3.193	83.362	0.000	0.000	0.000	0.000	4.250	42.501	42.501
100	2.300	7.546	-2.300	-7.546	24.422	1.315	13.190	5.384	3	9	7	6	8	111.369	0.433	0.354	0.079	2.547	1.700	23.397	39.774	0.000	0.000	67.868	5.482	23.989	0.014	0.014	66.928	2.300	67.928	2.708	0.000	41.159	35.196	-0.544	3.298	80.582	0.000	0.000	0.000	0.000	3.977	39.774	39.774
101	2.350	7.710	-2.350	-7.710	10.738	1.180	23.740	10.989	0	0	5	5	0	118.624	0.443	0.358	0.085	2.712	1.700	10.287	17.488	0.000	0.000	28.777	11.461	10.296	0.061	0.064	26.942	0.958	27.942	3.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.749	17.488	28.777
102	2.400	7.874	-2.400	-7.874	11.160	0.324	23.980	2.903	4	4	5	5	4	114.551	0.452	0.362	0.090	2.876	1.698	7.127	12.099	2.929	8.100	29.561	3.026	10.708	0.059	0.062	27.743	0.997	28.743	2.625	36.585	0.000	31.447	-0.175	0.000	0.000	0.000	0.000	0.000	0.000	1.815	18.149	29.561
103	2.450	8.038	-2.450	-8.038	12.539	0.338	19.020	2.696	5	4	5	5	4	114.551	0.462	0.367	0.095	3.040	1.688	6.006	10.136	3.473	5.905	32.954	2.799	12.077	0.040	0.041	31.592	1.144	32.592	2.728	41.980	0.000	31.976	-0.180	0.000	0.000	0.000	0.000	0.000	0.000	2.027	20.272	20.421
104	2.500	8.202	-2.500	-8.202	14.580	0.352	8.070	2.414	5	4	6	6	4	114.551	0.471	0.371	0.100	3.204	1.678	6.984	11.718	3.869	6.577	38.055	2.495	14.110	0.010	0.011	37.645	1.373	38.645	2.646	37.648	0.000	32.669	-0.185	0.000	0.000	0.000	0.000	0.000	0.000	2.344	23.437	23.746
105	2.550	8.366	-2.550	-8.366	8.829	0.337	1.460	3.817	3	3	5	5	3	111.369	0.480	0.375	0.105	3.368	1.669	8.458	14.113	2.543	6.694	22.269	4.036	8.349	-0.007	-0.007	22.428	0.841	23.428	2.800	45.977	0.000	0.000	0.000	0.000	0.000	0.557	0.000	8.389	1.411	14.113	22.269
106	2.600	8.530	-2.600	-8.530	6.277	0.279	4.350	4.445	3	3	5	5	3	111.369	0.489	0.379	0.110	3.532	1.660	6.014	9.981	2.002	5.085	15.275	4.820	5.788	0.004	0.004	15.207	0.588	16.207	2.974	56.782	0.000	0.000	0.000	0.000	0.000	0.386	0.003	4.680	0.998	9.981	15.275
107	2.650	8.694	-2.650	-8.694	5.867	0.211	12.340	3.596	3	3	4	5	3	111.369	0.498	0.383	0.115	3.696	1.651	5.621	9.280	1.841	4.592	14.020	3.930	5.369	0.046	0.050	13.315	0.525	14.315	2.948	55.037	0.000	0.000	0.000	0.000	0.000	0.358	0.034	4.116	0.928	9.280	14.020
108	2.700	8.858	-2.700	-8.858	6.183	0.218	8.420	3.526	3	3	4	5	3	111.369	0.508	0.387	0.120	3.861	1.642	5.923	9.728	1.915	4.742	14.666	3.841	5.675	0.023	0.025	14.298	0.567	15.298	2.926	53.654	0.000	0.000	0.000	0.000	0.000	0.379	0.018	4.403	0.973	9.728	14.666
109	2.750	9.022	-2.750	-9.022	5.674	0.253	21.470	4.459	3	3	4	4	3	111.369	0.517	0.391	0.126	4.025	1.634	5.436	8.882	1.872	4.543	13.192	4.905	5.158	0.096	0.106	11.799	0.479	12.799	3.028	60.425	0.000	0.000	0.000	0.000	0.000	0.344	0.068	3.762	0.888	8.882	13.192
110	2.800	9.186	-2.800	-9.186	5.983	0.288	32.450	4.814	3	3	4	4	3	111.369	0.526	0.395	0.131	4.189	1.626	5.731	9.317	1.980	4.772	13.816	5.278	5.457	0.147	0.162	11.582	0.476	12.582	3.033	60.749	0.000	0.000	0.000	0.000	0.000	0.364	0.110	4.027	0.932	9.317	13.816
111	2.850	9.350	-2.850	-9.350	6.310	0.213	8.050	3.375	3	3	5	5	3	111.369	0.535	0.399	0.136	4.353	1.617	6.045	9.778	1.947	4.663	14.475	3.688	5.775	0.018	0.020	14.186	0.580	15.186	2.920	53.249	0.000	0.000	0.000	0.000	0.000	0.385	0.014	4.317	0.978	9.778	14.475
112	2.900	9.514	-2.900	-9.514	4.498	0.157	9.300	3.490	3	3	4	4	3	111.369	0.544	0.403	0.141	4.517	1.609	4.309	6.935	1.528	3.480	9.812	3.971	3.954	0.033	0.038	9.441	0.403	10.441	3.074	63.615	0.000	0.000	0.000	0.000	0.000	0.264	0.019	2.470	0.694	6.935	9.812
113	2.950	9.678	-2.950	-9.678	4.391	0.065	9.760	1.480	1	4	4	4	4	111.369	0.553	0.407	0.146	4.681	1.601	2.103	3.368	1.328	2.976	9.429	1.694	3.838	0.036	0.041	9.039	0.391	10.039	2.886	51.104	0.000	26.713	0.006	0.000	0.000	0.000	0.000	0.000	0.674	6.736	9.429
114	3.000	9.842	-3.000	-9.842	3.865	0.075	11.980	1.941	1	3	3	4	3	111.369	0.562	0.411	0.151	4.845	1.594	1.851	2.950	1.261	2.736	8.035	2.271	3.303	0.058	0.067	7.493	0.334	8.493	3.011	59.202	0.000	0.000	0.000	0.000	0.000	0.220	0.028	1.897	0.590	5.900	8.035
115	3.050	10.006	-3.050	-10.006	4.181	0.132	25.720	3.157	3	3	3	3	3	111.369	0.572	0.415	0.156	5.010	1.586	4.005	6.351	1.441	3.129	8.696	3.657	3.609	0.155	0.179	7.138	0.324	8.138	3.096	65.174	0.000	0.000	0.000	0.000	0.000	0.241	0.081	2.101	0.635	6.351	8.696
116	3.100	10.170	-3.100	-10.170	7.089	0.159	19.090	2.243	4	4	4	5	4	114.551	0.581	0.419	0.161	5.174	1.578	4.528	7.145	2.030	4.640	15.526	2.443	6.509	0.061	0.067	14.490	0.622	15.490	2.789	45.366	0.000	28.931	-0.072	0.000	0.000	0.000	0.000	0.000	1.072	10.717	15.526
117	3.150	10.335	-3.150	-10.335	9.378	0.259	-3.470	2.762	4	4	5	5	4	114.551	0.590	0.424	0.167	5.338	1.570	5.990	9.404	2.609	6.027	20.753	2.947	8.788	-0.029	-0.031	21.402	0.909	22.402	2.737	42.430	0.000	30.243	-0.139	0.000	0.000	0.000	0.000	0.000	1.411	14.106	20.753
118	3.200	10.499	-3.200	-10.499	9.839	0.251	-5.030	2.551	5	4	5	5	4	114.551	0.600	0.428	0.172	5.502	1.562	4.713	7.362	2.686	6.156	21.600	2.717	9.239	-0.033	-0.036	22.368	0.958	23.368	2.701	40.517	0.000	30.448	-0.134	0.000	0.000	0.000	0.000	0.000	1.472	14.724	21.600
119	3.250	10.663	-3.250	-10.663	5.319	0.216	-1.780	4.061	3	3	4	4	3	111.369	0.609	0.432	0.177	5.666	1.555	5.095	7.922	1.808	3.870	10.906	4.586	4.710	-0.044	-0.049	11.444	0.515	12.444	3.075	63.684	0.000	0.000	0.000	0.000	0.000	0.314	0.000	2.860	0.792	7.922	10.906
120	3.300	10.827	-3.300	-10.827	17.994	0.245	10.180	1.362	6	5	6	6	5	114.551	0.618	0.436	0.182	5.830	1.547	6.895	10.668	4.360	6.745	39.849	1.410	17.376	0.008	0.008	39.538	1.693	40.538	2.460	28.935	0.000	33.286	-0.129	0.000	0.000	0.000	0.000	0.000	2.667	26.671	26.671
121	3.350	10.991	-3.350	-10.991	11.775	0.246	5.600	2.089	5	4	6	5	4	114.551	0.628	0.440	0.187	5.994	1.540	5.640	8.684	3.194	5.430	25.318	2.207	11.148	-0.001	-0.001	25.346	1.111	26.346	2.689	39.858	0.000	31.237	-0.126	0.000	0.000	0.000	0.000	0.000	1.737	17.369	19.177
122	3.400	11.155	-3.400	-11.155	6.801	0.220	20.970	3.235	3	3	4	4	3	111.369	0.637	0.445	0.192	6.158	1.533	6.515	9.985	2.106	4.484	13.870	3.569	6.164	0.068	0.075	12.829	0.589	13.829	2.926	53.633	0.000	0.000	0.000	0.000	0.000	0.411	0.058	4.051	0.998	9.985	13.870
123	3.450	11.319	-3.450	-11.319	17.380	0.302	28.790	1.738	6	5	6	6	5	114.551	0.646	0.449	0.197	6.323	1.525	6.660	10.159	4.371	6.668	37.303	1.805	16.734	0.040	0.042	35.739	1.579	36.739	2.539	32.442	0.000	33.053	-0.142	0.000	0.000	0.000	0.000	0.000	2.540	25.398	25.398
124	3.500	11.483	-3.500	-11.483	13.565	0.226	-2.440	1.666	5	5	6	5	5	114.551	0.655	0.453	0.202	6.487	1.518	6.498	9.865	3.483	5.921	28.506	1.751	12.910	-0.021	-0.022	29.121	1.307	30.121	2.581	34.421	0.000	31.846	-0.118	0.000	0.000	0.000	0.000	0.000	1.973	19.729	22.092
125	3.550	11.647	-3.550	-11.647	6.331	0.193	6.490	3.049	3	3	5	5	3	111.369	0.665	0.457	0.208	6.651	1.511	6.065	9.166	1.992	4.073	12.398	3.406	5.666	-0.001	-0.001	12.409	0.587	13.409	2.953	55.360	0.000	0.000	0.000	0.000	0.000	0.378	0.000	3.436	0.917	9.166	12.398
126	3.600	11.811	-3.600	-11.811	4.913	0.064	11.760	1.303	1	4	4	4	4	111.369	0.674	0.461	0.213	6.815	1.505	2.354	3.541	1.473	2.877	9.196	1.510	4.240	0.031	0.036	8.861	0.436	9.861	2.870	50.165	0.000	26.952	0.016	0.000	0.000	0.000	0.000	0.000	0.708	7.083	9.196
127	3.650	11.975	-3.650	-11.975	4.031	0.046	19.350	1.141	1	4	3	3	4	111.369	0.683	0.465	0.218	6.979	1.498	1.931	2.893	1.262	2.354	7.199	1.374	3.348	0.096	0.115	6.369	0.328	7.369	2.945	54.825	0.000	25.986	0.054	0.000	0.000	0.000	0.000	0.000	0.579	5.785	7.199
128	3.700	12.139	-3.700	-12.139	4.108	0.055	22.040	1.339	1	3	3	3	3	111.369	0.692	0.469	0.223	7.143	1.492	1.968	2.935	1.309	2.422	7.282	1.610	3.416	0.113	0.136	6.290	0.328	7.290	2.973	56.657	0.000	0.000	0.000	0.000	0.000	0.228	0.058	1.678	0.587	5.870	7.282
129	3.750	12.303	-3.750	-12.303	4.820	0.064	25.670	1.328	1	4	3	4	4	111.369	0.701	0.473	0.228	7.307	1.485	2.309	3.430	1.468	2.767	8.707	1.554	4.119	0.119	0.139	7.496	0.385	8.496	2.897	51.818	0.000	26.799	0.031	0.000	0.000	0.000	0.000	0.000	0.686	6.859	8.707
130	3.800	12.467	-3.800	-12.467	5.379	0.127	35.040	2.361	4	3	3	3	3	114.551	0.711	0.477	0.233	7.472	1.479	3.435	5.081	1.722	3.270	9.783	2.720	4.668	0.160	0.184	7.979	0.411	8.979	2.981	57.209	0.000	0.000	0.000	0.000	0.000	0.311	0.108	2.460	0.762	7.621	9.783
131	3.850	12.631	-3.850	-12.631	6.582	0.138	37.120	2.097	4	4	4	4	3	114.551	0.720	0.482	0.238	7.636	1.472	4.204	6.189	1.969	3.802	12.175	2.354	5.862	0.140	0.157	10.263	0.520	11.263	2.867	49.966	0.000	28.245	-0.029	0.000	0.000	0.000	0.000	0.000	0.928	9.284	12.175
132	3.900	12.795	-3.900	-12.795	5.686	0.140	37.790	2.462	4	3	3	4	3	114.551	0.729	0.486	0.243	7.800	1.466	3.631	5.323	1.814	3.398	10.204	2.824	4.957	0.165	0.189	8.277	0.432	9.277	2.975	56.804	0.000	0.000	0.000	0.000	0.000	0.331	0.117	2.607	0.798	7.985	10.204
133	3.950	12.959	-3.950	-12.959	6.080	0.113	41.610	1.859	4	4	3	4	3	114.551	0.739	0.490	0.249	7.964	1.459	3.883	5.667	1.835	3.433	10.900	2.116	5.341	0.173	0.197	8.756	0.458	9.756	2.882	50.880	0.000	27.824	-0.004	0.000	0.000	0.000	0.000	0.000	0.850	8.501	10.900
134	4.000	13.123	-4.000	-13.123	6.722	0.121	43.640	1.800	4	4	4	4	4	114.551	0.748	0.495	0.254	8.128	1.453	4.293	6.239	1.973	3.704	12.087	2.025	5.975	0.165	0.186	9.844	0.514	10.844	2.834	47.978	0.000	28.283	-0.014	0.000	0.000	0.000	0.000	0.000	0.936	9.359	12.087
135	4.050	13.287	-4.050	-13.287	16.265	0.131	5.660	0.805	6	5	6	5	5	114.551	0.758	0.499	0.259	8.292	1.447	6.233	9.019	3.846	5.565	31.104	0.845	15.508	-0.005	-0.005	31.269	1.541	32.269	2.408	26.720	0.000	32.484	-0.064	0.000	0.000	0.000	0.000	0.000	2.255	22.546	22.546
136	4.100	13.451	-4.100	-13.451	20.520	0.145	-4.840	0.707	7	5	7	6	5	117.733	0.767	0.503	0.264	8.456	1.441	6.553	9.440	4.608	6.639	39.271	0.734	19.753	-0.020	-0.021	40.096	1.980	41.096	2.291	22.207	31.112	33.573	-0.076	0.000	0.000	0.000	0.000	0.000	2.832	28.319	28.319
137	4.150	13.615	-4.150	-13.615	23.295	0.217	-5.660	0.932	7	5	7	6	5	117.733	0.777	0.508	0.269	8.621	1.434	7.439	10.668	5.261	7.545	44.369	0.964	22.518	-0.019	-0.020	45.247	2.249	46.247	2.304	22.681	34.619	34.157	-0.109	3.643	84.894	0.000	0.000	0.000	0.000	3.200	32.004	32.004
138	4.200	13.779	-4.200	-13.779	27.006	0.296	-2.270	1.096	7	5	7	6	5	117.733	0.786	0.512	0.274	8.785	1.428	8.624	12.313	6.058	8.650	51.204	1.129	26.220	-0.013	-0.013	51.878	2.594	52.878	2.289	22.114	38.729	34.842	-0.136	3.416	92.288	0.000	0.000	0.000	0.000	3.694	36.939	36.939
139	4.250	13.943	-4.250	-13.943	25.069	0.413	1.490	1.647	6	5	7	6	5	114.551	0.796	0.517	0.279	8.949	1.422	9.607	13.657	5.962	8.475	47.000	1.701	24.274	-0.009	-0.010	47.450	2.397	48.450	2.420	27.228	36.473	34.466	-0.166	3.541	88.805	0.000	0.000	0.000	0.000	3.414	34.143	34.143
140	4.300	14.107	-4.300	-14.107	21.768	0.481	6.060	2.210	6	5	7	6	4	114.551	0.805	0.521	0.284	9.113	1.416	8.341	11.810	5.503	7.791	40.256	2.295	20.963	-0.004	-0.005	40.438	2.067	41.438	2.549	32.926	32.308	33.772	-0.182	0.000	0.000	0.000	0.000	0.000	0.000	2.952	29.525	29.525
141	4.350	14.271	-4.350	-14.271	39.608	0.524	10.870	1.323	7	5	8	6	5	117.733	0.815	0.525	0.290	9.277	1.410	12.648	17.832	8.570	12.083	73.872	1.351	38.793	0.001	0.001	73.777	3.762	74.777	2.204	19.127	49.345	36.612	-0.187	2.841	112.566	0.000	0.000	0.000	0.000	5.350	53.496	53.496
142	4.400	14.436	-4.400	-14.436	78.827	0.647	2.750	0.821	8	6	8	6	6	120.915	0.825	0.530	0.295	9.441	1.404	18.879	26.500	14.805	20.781	147.228	0.829	78.003	-0.003	-0.003	147.621	7.543	148.621	1.840	8.987	68.945	39.878	-0.206	2.111	166.444	0.000	0.000	0.000	0.000	10.600	105.998	105.998
143	4.450	14.600	-4.450	-14.600	85.448	0.726	-0.270	0.850	8	6	9	6	6	120.915	0.835	0.535	0.300	9.605	1.397	20.465	28.596	15.952	22.291	158.273	0.858	84.614	-0.004	-0.004	158.849	8.187	159.849	1.823	8.619	71.128	40.242	-0.216	2.062	176.286	0.000	0.000	0.000	0.000	11.438	114.385	114.385
144	4.500	14.764	-4.500	-14.764	80.021	0.888	-1.470	1.110	8	6	9	6	5	120.915	0.844	0.540	0.305	9.770	1.391	19.165	26.661	15.488	21.546	146.785	1.122	79.177	-0.004	-0.004	147.435	7.670	148.435	1.921	10.916	69.119	39.907	-0.236	2.107	168.645	0.000	0.000	0.000	0.000	10.664	106.642	106.642
145	4.550	14.928	-4.550	-14.928	80.770	1.131	-9.670	1.400	7	6	9	6	5	117.733	0.854	0.544	0.310	9.934	1.385	25.792	35.726	16.032	22.207	146.885	1.415	79.916	-0.008	-0.008	148.009	7.767	149.009	1.988	12.629	69.262	39.931	-0.261	2.103	169.958	0.000	0.000	0.000	0.000	10.718	107.177	107.177
146	4.600	15.092	-4.600	-15.092	69.880	1.275	-14.420	1.825	7	5	8	6	5	117.733	0.864	0.549	0.315	10.098	1.379	22.315	30.781	14.580	20.111	125.803	1.847	69.016	-0.011	-0.011	127.198	6.738	128.198	2.115	16.269	64.992	39.219	-0.279	2.211	154.563	0.000	0.000	0.000	0.000	9.234	92.343	92.343
147	4.650	15.256	-4.650	-15.256	66.725	1.320	-16.860	1.978	7	5	8	6	5	117.733	0.874	0.553	0.320	10.262	1.374	21.307	29.271	14.152	19.441	119.050	2.005	65.852	-0.013	-0.013	120.580	6.443	121.580	2.156	17.539	63.550	38.979	-0.285	2.253	150.381	0.000	0.000	0.000	0.000	8.781	87.812	87.812
148	4.700	15.420	-4.700	-15.420	77.450	1.193	-17.600	1.540	7	6	8	6	5	117.733	0.883	0.558	0.325	10.426	1.368	24.732	33.837	15.649	21.409	137.297	1.558	76.567	-0.011	-0.011	138.865	7.472	139.865	2.034	13.887	67.705	39.672	-0.266	2.140	165.817	0.000	0.000	0.000	0.000	10.151	101.511	101.511
149	4.750	15.584	-4.750	-15.584	74.864	0.894	-18.590	1.194	8	6	8	6	5	120.915	0.893	0.563	0.330	10.590	1.362	17.930	24.428	14.766	20.117	131.541	1.209	73.971	-0.012	-0.012	133.161	7.228	134.161	1.971	12.188	66.612	39.490	-0.234	2.167	162.331	0.000	0.000	0.000	0.000	9.771	97.714	97.714
150	4.800	15.748	-4.800	-15.748	64.780	0.878	-19.280	1.355	7	6	8	6	5	117.733	0.903	0.567	0.336	10.754	1.357	20.686	28.068	13.206	17.918	112.656	1.375	63.877	-0.014	-0.015	114.309	6.264	115.309	2.057	14.536	62.347	38.779	-0.232	2.290	148.424	0.000	0.000	0.000	0.000	8.420	84.203	84.203
151	4.850	15.912	-4.850	-15.912	59.455	0.788	-18.360	1.325	7	6	8	6	5	117.733	0.913	0.572	0.341	10.918	1.351	18.986	25.658	12.234	16.533	102.430	1.346	58.543	-0.015	-0.016	104.029	5.751	105.029	2.080	15.223	59.774	38.350	-0.221	2.378	141.465	0.000	0.000	0.000	0.000	7.697	76.975	76.975
152	4.900	16.076	-4.900	-16.076	59.572	0.493	-17.250	0.828	8	6	8	6	6	120.915	0.922	0.576	0.346	11.083	1.346	14.268	19.203	11.676	15.715	101.786	0.841	58.650	-0.015	-0.015	103.321	5.759	104.321	1.955	11.755	59.714	38.340	-0.175	2.381	141.874	0.000	0.000	0.000	0.000	7.681	76.813	76.813
153	4.950	16.240	-4.950	-16.240	51.998	0.603	-16.330	1.160	7	6	8	6	5	117.733	0.932	0.581	0.351	11.247	1.341	16.605	22.259	10.749	14.410	87.913	1.181	51.066	-0.017	-0.017	89.394	5.030	90.394	2.092	15.573	55.701	37.671	-0.193	2.540	132.145	0.000	0.000	0.000	0.000	6.678	66.777	66.777
154	5.000	16.404	-5.000	-16.404	54.494	1.053	-13.830	1.932	7	5	8	6	5	117.733	0.942	0.586	0.356	11.411	1.335	17.402	23.237	11.881	15.864	91.478	1.966	53.552	-0.014	-0.015	92.823	5.262	93.823	2.222	19.740	56.933	37.876	-0.254	2.488	135.663	0.000	0.000	0.000	0.000	6.971	69.710	69.710
155	5.050	16.568	-5.050	-16.568	78.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
189	6.750	22.145	-6.750	-22.145	365.970	6.429	32.030	1.757	8	8	10	7	8	120.915	1.289	0.753	0.535	17.156	1.177	87.650	103.205	0.000	0.000	484.372	1.763	364.682	0.001	0.001	483.755	34.964	484.755	1.697	0.000	0.000	46.373	-0.413	0.000	0.000	0.000	0.000	0.000	41.282	412.820	412.820
190	6.800	22.309	-6.800	-22.309	405.973	6.739	37.280	1.660	8	6	10	7	8	120.915	1.298	0.758	0.540	17.320	1.174	97.230	114.123	71.439	83.850	534.088	1.665	404.675	0.002	0.002	533.266	38.781	534.266	1.654	5.276	0.000	46.854	-0.413	0.000	0.000	0.000	0.000	0.000	45.649	456.492	456.492
191	6.850	22.473	-6.850	-22.473	409.523	6.222	21.370	1.519	9	6	10	7	8	124.097	1.309	0.763	0.546	17.484	1.170	78.465	91.799	71.227	83.331	535.281	1.524	408.215	0.000	0.000	535.121	39.168	536.121	1.619	4.680	0.000	46.880	-0.400	0.000	0.000	0.000	0.000	0.000	45.899	458.995	458.995
192	6.900	22.638	-6.900	-22.638	421.834	6.352	19.880	1.506	9	6	10	7	8	124.097	1.319	0.768	0.551	17.648	1.166	80.823	94.246	73.146	85.294	547.777	1.511	420.516	0.000	0.000	547.686	40.352	548.686	1.610	4.528	0.000	47.006	-0.401	0.000	0.000	0.000	0.000	0.000	47.123	471.232	471.232
193	6.950	22.802	-6.950	-22.802	474.265	6.443	28.030	1.359	9	6	10	7	8	124.097	1.329	0.773	0.556	17.812	1.162	90.869	105.613	80.532	93.599	612.030	1.362	472.937	0.001	0.001	611.617	45.351	612.617	1.547	3.523	0.000	47.550	-0.398	0.000	0.000	0.000	0.000	0.000	52.807	528.067	528.067
194	7.000	22.966	-7.000	-22.966	482.866	7.566	40.960	1.567	9	6	10	7	8	124.097	1.339	0.778	0.561	17.976	1.158	92.517	107.178	83.401	96.618	619.095	1.571	481.527	0.001	0.001	618.172	46.136	619.172	1.598	4.335	0.000	47.620	-0.419	0.000	0.000	0.000	0.000	0.000	53.589	535.892	535.892
195	7.050	23.130	-7.050	-23.130	471.270	3.858	57.610	0.819	10	6	10	7	8	127.279	1.349	0.783	0.566	18.141	1.155	75.246	86.881	75.444	87.110	600.170	0.821	469.921	0.003	0.003	598.596	44.975	599.596	1.361	1.071	0.000	47.488	-0.335	0.000	0.000	0.000	0.000	0.000	52.129	521.287	521.287
196	7.100	23.294	-7.100	-23.294	476.812	4.757	93.260	0.998	9	6	10	7	8	124.097	1.360	0.788	0.571	18.305	1.151	91.357	105.136	78.029	89.797	603.239	1.001	475.453	0.005	0.005	600.270	45.400	601.270	1.432	1.920	0.000	47.528	-0.357	0.000	0.000	0.000	0.000	0.000	52.568	525.679	525.679
197	7.150	23.458	-7.150	-23.458	474.255	6.570	55.210	1.385	9	6	10	7	8	124.097	1.370	0.794	0.576	18.469	1.147	90.867	104.238	80.801	92.690	596.155	1.389	472.885	0.002	0.002	594.709	45.269	595.709	1.557	3.679	0.000	47.487	-0.397	0.000	0.000	0.000	0.000	0.000	52.119	521.190	521.190
198	7.200	23.622	-7.200	-23.622	499.685	2.364	66.540	0.473	10	7	10	7	8	127.279	1.380	0.799	0.581	18.633	1.143	79.783	91.225	75.241	86.032	624.120	0.474	498.306	0.003	0.003	622.247	47.671	623.247	1.157	0.000	0.000	47.721	-0.285	0.000	0.000	0.000	0.000	0.000	54.735	547.351	547.351
199	7.250	23.786	-7.250	-23.786	525.473	5.834	152.730	1.110	9	6	10	7	8	124.097	1.391	0.804	0.587	18.797	1.140	100.681	114.748	86.558	98.652	652.169	1.113	524.084	0.008	0.008	646.966	49.884	647.966	1.453	2.189	0.000	47.946	-0.377	0.000	0.000	0.000	0.000	0.000	57.374	573.738	573.738
200	7.300	23.950	-7.300	-23.950	590.496	10.077	18.620	1.707	9	8	10	7	8	124.097	1.401	0.809	0.592	18.961	1.136	113.139	128.543	0.000	0.000	728.486	1.711	589.096	-0.000	-0.000	728.499	56.514	729.499	1.597	0.000	0.000	48.488	-0.450	0.000	0.000	0.000	0.000	0.000	64.271	642.714	642.714
201	7.350	24.114	-7.350	-24.114	600.410	0.010	123.360	0.002	10	0	10	7	0	127.279	1.411	0.814	0.597	19.125	1.133	95.865	108.570	0.000	0.000	736.011	0.002	599.000	0.005	0.005	732.013	57.150	733.013	1.690	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	65.142	651.418	651.418
202	7.400	24.278	-7.400	-24.278	569.351	0.010	149.090	0.002	10	0	10	7	0	127.279	1.421	0.820	0.602	19.290	1.129	90.906	102.619	0.000	0.000	693.304	0.002	567.930	0.007	0.007	688.358	54.098	689.358	1.678	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	61.571	615.711	615.711

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
114	3.000	9.842	-3.000	-9.842	12.740	0.488	-6.440	3.831	4	4	6	5	3	114.551	0.565	0.507	0.058	1.845	1.435	8.136	11.672	3.615	7.110	24.002	4.008	12.175	-0.020	-0.021	24.512	1.240	25.512	2.773	44.460	0.000	31.276	-0.211	0.000	0.000	0.000	0.000	1.751	17.508	24.002
115	3.050	10.006	-3.050	-10.006	10.970	0.486	0.030	4.430	3	3	6	5	3	111.369	0.574	0.512	0.063	2.009	1.429	10.509	15.015	3.290	6.365	20.329	4.675	10.396	-0.006	-0.006	20.450	1.051	21.450	2.871	50.231	0.000	0.000	0.000	0.000	0.000	0.000	0.693	0.000	7.268	1.501	15.015	20.329
116	3.100	10.170	-3.100	-10.170	12.249	0.476	-3.290	3.886	3	3	6	5	3	111.369	0.583	0.516	0.068	2.173	1.423	11.735	16.700	3.523	6.796	22.635	4.080	11.666	-0.014	-0.015	22.966	1.183	23.966	2.797	45.844	0.000	0.000	0.000	0.000	0.000	0.000	0.778	0.000	8.608	1.670	16.700	22.635
117	3.150	10.335	-3.150	-10.335	12.894	0.546	-0.920	4.234	3	3	6	5	3	111.369	0.593	0.520	0.073	2.337	1.418	12.353	17.511	3.728	7.148	23.684	4.438	12.302	-0.008	-0.008	23.880	1.238	24.880	2.807	46.384	0.000	0.000	0.000	0.000	0.000	0.000	0.820	0.000	9.249	1.751	17.511	23.684
118	3.200	10.499	-3.200	-10.499	11.567	0.636	-3.670	5.498	3	3	6	5	3	111.369	0.602	0.524	0.078	2.501	1.412	11.081	15.649	3.579	6.766	20.950	5.800	10.966	-0.017	-0.018	21.318	1.119	22.318	2.924	53.527	0.000	0.000	0.000	0.000	0.000	0.000	0.731	0.000	7.619	1.565	15.649	20.950
119	3.250	10.663	-3.250	-10.663	11.634	0.628	-4.170	5.398	3	3	6	5	3	111.369	0.611	0.528	0.083	2.666	1.407	11.145	15.679	3.590	6.732	20.900	5.697	11.023	-0.018	-0.019	21.304	1.127	22.304	2.920	53.241	0.000	0.000	0.000	0.000	0.000	0.000	0.735	0.000	7.591	1.568	15.679	20.900
120	3.300	10.827	-3.300	-10.827	14.682	0.534	-1.240	3.637	4	4	6	5	3	114.551	0.620	0.532	0.088	2.830	1.401	9.377	13.140	4.062	7.639	26.454	3.797	14.062	-0.009	-0.009	26.693	1.410	27.693	2.726	41.845	0.000	31.842	-0.211	0.000	0.000	0.000	0.000	0.000	1.971	19.710	26.454
121	3.350	10.991	-3.350	-10.991	12.707	0.467	-5.240	3.675	4	4	6	5	3	114.551	0.630	0.536	0.093	2.994	1.396	8.116	11.327	3.627	6.715	22.540	3.867	12.078	-0.020	-0.021	23.019	1.233	24.019	2.784	45.053	0.000	31.132	-0.193	0.000	0.000	0.000	0.000	0.000	1.699	16.991	22.540
122	3.400	11.155	-3.400	-11.155	7.900	0.412	-9.590	5.215	3	3	5	4	3	111.369	0.639	0.540	0.099	3.158	1.390	7.568	10.523	2.664	4.733	13.447	5.674	7.262	-0.050	-0.055	14.184	0.786	15.184	3.062	62.785	0.000	0.000	0.000	0.000	0.000	0.000	0.484	0.000	3.869	1.052	10.523	13.447
123	3.450	11.319	-3.450	-11.319	7.500	0.365	-8.000	4.867	3	3	5	4	3	111.369	0.648	0.544	0.104	3.322	1.385	7.185	9.953	2.536	4.446	12.596	5.327	6.852	-0.047	-0.052	13.245	0.742	14.245	3.067	63.089	0.000	0.000	0.000	0.000	0.000	0.000	0.457	0.000	3.516	0.995	9.953	12.596
124	3.500	11.483	-3.500	-11.483	10.469	0.239	-6.580	2.283	5	4	6	5	4	114.551	0.657	0.548	0.109	3.486	1.380	5.015	6.920	2.915	5.203	17.900	2.436	9.812	-0.030	-0.032	18.473	1.023	19.473	2.738	42.510	0.000	30.152	-0.100	0.000	0.000	0.000	0.000	0.000	1.384	13.840	17.900
125	3.550	11.647	-3.550	-11.647	33.400	0.352	0.050	1.054	7	5	7	6	5	117.733	0.667	0.553	0.114	3.650	1.374	10.666	14.660	7.259	9.976	59.240	1.075	32.734	-0.003	-0.003	59.443	3.200	60.443	2.214	19.479	43.729	35.676	-0.145	3.139	104.894	0.000	0.000	0.000	4.398	43.979	43.979
126	3.600	11.811	-3.600	-11.811	16.345	0.238	0.780	1.456	6	5	6	5	5	114.551	0.676	0.557	0.119	3.815	1.369	6.263	8.574	4.148	5.679	28.132	1.519	15.669	-0.006	-0.006	28.302	1.564	29.302	2.557	33.304	0.000	32.243	-0.102	0.000	0.000	0.000	0.000	0.000	2.144	21.436	21.436
127	3.650	11.975	-3.650	-11.975	11.405	0.348	0.770	3.051	4	4	6	5	3	114.551	0.686	0.561	0.124	3.979	1.364	7.284	9.934	3.268	5.714	19.099	3.246	10.719	-0.009	-0.009	19.278	1.090	20.278	2.791	45.474	0.000	30.505	-0.139	0.000	0.000	0.000	0.000	0.000	1.490	14.900	19.099
128	3.700	12.139	-3.700	-12.139	22.601	0.346	0.180	1.531	6	5	7	6	5	114.551	0.695	0.566	0.129	4.143	1.359	8.661	11.767	5.458	7.415	38.737	1.579	21.906	-0.005	-0.006	38.955	2.165	39.955	2.453	28.631	32.202	33.754	-0.138	0.000	0.000	0.000	0.000	0.000	2.942	29.416	29.416
129	3.750	12.303	-3.750	-12.303	23.854	0.354	0.660	1.484	6	5	7	6	5	114.551	0.704	0.570	0.134	4.307	1.353	9.141	12.372	5.692	7.704	40.629	1.529	23.150	-0.005	-0.005	40.828	2.283	41.828	2.427	27.535	33.641	33.994	-0.140	3.696	88.205	0.000	0.000	0.000	3.093	30.931	30.931
130	3.800	12.467	-3.800	-12.467	13.251	0.300	0.130	2.264	5	4	6	5	4	114.551	0.714	0.574	0.140	4.471	1.348	6.347	8.559	3.548	6.105	21.839	2.393	12.537	-0.010	-0.011	22.075	1.269	23.075	2.664	38.567	0.000	31.168	-0.118	0.000	0.000	0.000	0.000	0.000	1.712	17.118	21.839
131	3.850	12.631	-3.850	-12.631	8.432	0.135	1.900	1.601	5	4	5	5	4	114.551	0.723	0.579	0.145	4.635	1.343	4.039	5.426	2.381	3.930	13.329	1.751	7.709	-0.010	-0.011	13.477	0.802	14.477	2.764	43.963	0.000	28.991	-0.037	0.000	0.000	0.000	0.000	0.000	1.085	10.852	13.329
132	3.900	12.795	-3.900	-12.795	5.265	0.038	8.850	0.722	1	4	4	4	4	111.369	0.732	0.583	0.150	4.799	1.339	2.522	3.376	1.534	2.367	7.782	0.838	4.533	0.024	0.028	7.565	0.478	8.565	2.821	47.215	0.000	26.724	0.068	0.000	0.000	0.000	0.000	0.000	0.675	6.752	7.782
133	3.950	12.959	-3.950	-12.959	3.031	0.021	16.180	0.693	1	3	3	3	1	111.369	0.742	0.587	0.155	4.964	1.334	1.452	1.937	1.056	1.420	3.904	0.917	2.290	0.116	0.153	3.307	0.242	4.307	3.112	66.344	0.000	0.000	0.000	0.000	0.000	0.000	0.153	0.000	0.884	0.387	3.874	3.904
134	4.000	13.123	-4.000	-13.123	2.447	0.020	22.000	0.817	1	3	3	3	1	111.369	0.751	0.591	0.160	5.128	1.330	1.172	1.559	0.959	1.175	2.874	1.179	1.697	0.215	0.310	1.982	0.169	2.982	3.277	79.140	0.000	0.000	0.000	0.000	0.000	0.000	0.113	0.066	0.710	0.312	3.117	2.874
135	4.050	13.287	-4.050	-13.287	2.566	0.019	33.020	0.740	1	3	3	3	1	111.369	0.760	0.595	0.165	5.292	1.325	1.229	1.629	0.975	1.205	3.039	1.052	1.807	0.337	0.479	1.583	0.147	2.583	3.235	75.772	0.000	0.000	0.000	0.000	0.000	0.000	0.120	0.108	0.736	0.326	3.257	3.039
136	4.100	13.451	-4.100	-13.451	3.442	0.036	43.580	1.046	1	3	3	3	1	111.369	0.769	0.599	0.170	5.456	1.321	1.649	2.177	1.211	1.640	4.466	1.347	2.673	0.346	0.445	2.478	0.199	3.478	3.126	67.395	0.000	0.000	0.000	0.000	0.000	0.000	0.178	0.149	0.993	0.435	4.355	4.466
137	4.150	13.615	-4.150	-13.615	4.880	0.056	51.210	1.148	1	3	3	3	3	111.369	0.778	0.603	0.175	5.620	1.316	2.337	3.076	1.547	2.253	6.807	1.365	4.102	0.292	0.347	4.446	0.314	5.446	2.965	56.149	0.000	0.000	0.000	0.000	0.000	0.000	0.274	0.178	1.547	0.615	6.153	6.807
138	4.200	13.779	-4.200	-13.779	6.911	0.103	65.850	1.490	5	4	3	3	4	114.551	0.787	0.607	0.181	5.784	1.312	3.310	4.342	2.057	3.137	10.094	1.682	6.124	0.271	0.306	7.003	0.465	8.003	2.859	49.450	0.000	27.926	0.033	0.000	0.000	0.000	0.000	0.000	0.868	8.684	10.094
139	4.250	13.943	-4.250	-13.943	11.104	0.134	79.210	1.207	5	4	4	4	4	114.551	0.797	0.611	0.186	5.948	1.307	5.319	6.952	2.892	4.587	16.871	1.300	10.308	0.206	0.222	13.128	0.827	14.128	2.610	35.825	0.000	30.175	-0.013	0.000	0.000	0.000	0.000	0.000	1.390	13.905	16.871
140	4.300	14.107	-4.300	-14.107	18.663	0.374	90.250	2.004	6	4	5	5	4	114.551	0.806	0.616	0.191	6.113	1.303	7.152	9.316	4.767	6.902	29.025	2.094	17.857	0.141	0.147	24.756	1.518	25.756	2.570	33.920	0.000	32.639	-0.118	0.000	0.000	0.000	0.000	0.000	2.329	23.289	25.886
141	4.350	14.271	-4.350	-14.271	32.399	0.653	46.330	2.015	6	5	7	6	5	114.551	0.816	0.620	0.196	6.277	1.298	10.427	16.116	7.690	9.981	50.981	2.068	31.584	0.039	0.040	48.963	2.965	49.963	2.416	27.052	41.218	35.257	-0.191	3.278	106.239	0.000	0.000	0.000	4.029	40.289	40.289
142	4.400	14.436	-4.400	-14.436	53.247	1.009	47.580	1.895	7	5	8	6	5	117.733	0.825	0.624	0.201	6.441	1.293	17.004	21.990	11.664	15.087	84.020	1.925	52.422	0.024	0.024	81.961	4.959	82.961	2.233	20.129	55.356	37.614	-0.238	5.555	136.112	0.000	0.000	0.000	6.598	65.980	65.980
143	4.450	14.600	-4.450	-14.600	73.985	1.399	8.790	1.891	7	5	8	6	5	117.733	0.835	0.629	0.206	6.605	1.289	23.626	30.448	15.523	20.006	116.396	1.912	73.150	0.001	0.001	116.287	7.061	117.287	2.129	16.700	64.681	39.168	-0.274	2.220	164.292	0.000	0.000	0.000	9.135	91.345	91.345
144	4.500	14.764	-4.500	-14.764	70.009	1.827	4.590	2.610	6	5	8	6	5	114.551	0.844	0.633	0.211	6.769	1.284	26.827	34.454	15.429	19.815	109.288	2.642	69.165	-0.001	-0.001	109.395	6.693	110.395	2.248	20.626	62.997	38.887	-0.320	2.270	158.967	0.000	0.000	0.000	8.613	86.135	86.135
145	4.550	14.928	-4.550	-14.928	69.048	2.262	15.630	3.276	6	5	8	6	8	114.551	0.854	0.637	0.216	6.933	1.280	26.459	33.867	15.740	20.147	107.031	3.317	68.194	0.004	0.004	106.605	6.568	107.605	2.326	23.485	62.504	38.805	-0.370	2.285	157.855	0.000	0.000	0.000	8.467	84.667	84.667
146	4.600	15.092	-4.600	-15.092	66.584	2.557	15.060	3.840	5	9	8	6	8	114.551	0.863	0.642	0.221	7.097	1.276	31.894	40.687	0.000	0.000	102.462	3.891	65.721	0.004	0.004	102.075	6.334	103.075	2.389	0.000	61.367	38.615	-0.416	2.323	154.706	0.000	0.000	0.000	8.137	81.373	81.373
147	4.650	15.256	-4.650	-15.256	58.033	2.519	18.130	4.341	5	9	8	6	8	114.551	0.873	0.646	0.227	7.261	1.271	27.798	35.344	0.000	0.000	88.527	4.407	57.161	0.006	0.006	88.001	5.505	89.001	2.470	0.000	57.332	37.943	-0.447	2.472	143.530	0.000	0.000	0.000	7.069	70.688	70.688
148	4.700	15.420	-4.700	-15.420	47.632	2.276	21.070	4.778	4	4	8	6	8	114.551	0.882	0.650	0.232	7.426	1.267	30.421	38.551	12.107	15.343	71.927	4.868	46.750	0.009	0.009	71.271	4.500	72.271	2.560	33.450	51.576	36.983	-0.466	2.730	130.072	0.000	0.000	0.000	5.783	57.827	57.827
149	4.750	15.584	-4.750	-15.584	41.143	2.227	32.540	5.413	3	4	7	6	8	111.369	0.891	0.654	0.237	7.590	1.263	39.415	49.791	10.762	14.927	61.537	5.533	40.252	0.019	0.019	60.347	3.844	61.347	2.618	36.242	47.288	36.269	-0.530	2.948	121.324	0.000	0.000	0.000	4.979	49.791	54.670
150	4.800	15.748	-4.800	-15.748	44.057	2.310	65.240	5.243	3	4	7	6	8	111.369	0.900	0.658	0.242	7.754	1.259	42.207	53.155	11.765	15.685	65.576	5.353	43.157	0.041	0.042	62.859	4.026	63.859	2.589	34.812	49.161	36.581	-0.509	2.850	125.624	0.000	0.000	0.000	5.316	53.155	58.292
151	4.850	15.912	-4.850	-15.912	48.409	2.508	17.390	5.181	3	9	8	6	8	111.369	0.910	0.662	0.247	7.918	1.256	46.375	58.228	0.000	0.000	71.737	5.280	47.499	0.006	0.006	71.290	4.586	72.290	2.585	0.000	51.774	37.016	-0.524	2.720	131.729	0.000	0.000	0.000	5.823	58.228	58.228
152	4.900	16.076	-4.900	-16.076	49.280	2.634	8.030	5.345	3	9	8	6	8	111.369	0.919	0.666	0.252	8.082	1.252	47.210	59.097	0.000	0.000	72.599	5.446	48.362	-0.000	-0.000	72.601	4.697	73.601	2.591	0.000	52.199	37.087	-0.555	2.700	133.093	0.000	0.000	0.000	5.910	59.097	59.097
153	4.950	16.240	-4.950	-16.240	46.598	2.263	6.040	4.856	4	4	8	6	8	114.551	0.928	0.671	0.257	8.246	1.248	29.760	37.138	11.941	14.901	68.134	4.955	45.670	-0.001	-0.002	68.237	4.446	69.237	2.577	34.236	50.506	36.805	-0.469	2.782	129.704	0.000	0.000	0.000	5.571	55.708	55.708
154	5.000	16.404	-5.000	-16.404	47.879	2.399	6.170	5.011	4	4	8	6	8	114.551	0.937	0.675	0.262	8.410	1.244	30.578	38.038	12.288	15.285	69.587	5.111	46.942	-0.001	-0.001	69.691	4.568	70.691	2.580	34.383	51.192	36.919	-0.494	2.748	131.644	0.000	0.000	0.000	5.706	57.057	57.057
155	5.050	16.568	-5.050	-16.568	48.930	2.543	14.400	5.197	3	9	8	6	8	111.369	0.947	0.679	0.268	8.575	1.240	46.875	58.132	0.000	0.000	70.698	5.300	47.984	0.004	0.004	70.430	4.644	71.430	2.586	0.000	51.727	37.009	-0.525	2.722	133.259	0.000	0.000	0.000	5.813	58.132	58.132
156	5.100	16.732	-5.100	-16.732	46.548	2.675	7.720	5.747	3	9	8	6	8	111.369	0.956	0.683	0.273	8.739	1.236	44.593	55.139	0.000	0.000	66.781	5.867	45.593	-0.001	-0.001	66.827	4.436	67.827	2.611	0.000	50.212	36.756	-0.617	2.797	130.249	0.000	0.000	0.000	5.514	55.139	60.026
157	5.150	16.896	-5.150	-16.896	41.822	2.685	8.250	6.420	3	9	8	6	8	111.369	0.965	0.687	0.278	8.903	1.233	40.065	49.395	0.000	0.000	59.494	5.572	40.857	-0.000	-0.000	59.524	3.982	60.524	2.651	0.000	47.059	36.231	-0.774	2.960	123.830	0.000	0.000	0.000	4.940	49.395	59.494
158	5.200	17.060	-5.200	-17.060	36.126	2.527	7.380	6.995	3	9	8	6	8	111.369	0.974	0.691	0.283	9.067	1.229	34.609	42.544	9.985	14.683	50.890	7.189	35.152	-0.001	-0.001	50.966	3.439	51.966	2.724	41.760	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.344	0.000	4.254	42.544	50.890
159	5.250	17.224	-5.250	-17.224	32.935	2.122	5.610	6.443	3	3	7	6	8	111.369	0.983	0.695	0.288	9.231	1.226	31.552	38.677	9.117	13.289	45.990	6.641	31.952	-0.003	-0.004	46.152	3.138	47.152	2.727	41.912	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.131	0.000	10.000	3.867	38.674	45.990
160	5.300	17.388	-5.300	-17.388	31.285	1.713	7.150	5.476	3	3	7	6	3	111.369	0.992	0.699	0.293	9.395	1.222	29.971	36.631	8.504	12.300	43.351	5.655	30.293	-0.002	-0.002	43.451	2.976	44.451	2.693	40.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.020	0.000	10.000	3.663	36.631	43.351
161	5.350	17.552	-5.350	-17.552	31.507	1.693	15.500	5.373	3	3	7	6	3	111.369	1.001	0.703	0.298	9.559	1.219	30.183	36.785	8.536	12.275	43.406	5.550	30.506	0.006	0.006	43.142	2.972	44.142	2.686	39.730	0.000	0.000	0.000	0.000	0.000	0.000	2.035	0.023	10.000	3.679	36.785	43.406
162	5.400	17.716	-5.400	-17.716	34.106	1.837	15.380	5.386	3	4	7	6	3	111.369	1.011	0.707	0.303	9.724	1.215	32.674	39.707	9.133	13.089	46.824	5.551	33.096	0.005	0.005	46.574	3.221	47.574	2.664	38.569	40.800	35.187	-0.475	3.301	112.626	0.000	0.000	0.000	3.971	39.707	46.824
163	5.450	17.880	-5.450	-17.880	32.991	2.038	14.590	6.177	3	3	7	6	8	111.369	1.020	0.711	0.309	9.888	1.212	31.605	38.300	9.099	12.949	44.979	6.374	31.972	0.004	0.005	44.772	3.117	45.772	2.720	41.540	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.132	0.018	10.000	3.830	38.300	44.979
164	5.500	18.044	-5.500	-18.044	32.770	2.009	11.260	6.131	3	3	7	6	8	111.369	1.029	0.715	0.314	10.052	1.208	31.394	37.937	9.045	12.794	44.404	6.329	31.742	0.001	0.001	44.351	3.106	45.351	2.722	41.617	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.117	0.005	10.000	3.794	37.937	44.404
165	5.550	18.208	-5.550	-18.208	32.323	1.860	11.770	5.754	3	3	7	6	3	111.369	1.038	0.719	0.319	10.216	1.205	30.966	37.315	8.855	12.445	43.522	5.945	31.286	0.002	0.002	43.454	3.061	44.454	2.707	40.851	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.087	0.006	10.000	3.731	37.315	43.522
166	5.600	18.372	-5.600	-18.372	33.145	1.929	13.660	5.820	3	3	7	6	8	111.369	1.047	0.723	0.324	10.380	1.202	31.753	38.157	9.068	12.681	44.405	6.010	32.099	0.003	0.003	44.263	3.134	45.263	2.705	40.722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.141	0.013	10.000	3.816	38.157	44.405
167	5.650	18.537	-5.650	-18.537	33.883	1.927	11.680	5.687	3	3	7	6	3	111.369	1.056	0.727	0.329	10.544	1.198	32.460	38.899	9.209	12.813	45.162	5.870	32.827	0.001	0.001	45.113	3.211	46.113	2.693	40.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.165	0.004	10.000	3.890	38.899	45.162
168	5.700	18.701	-5.700	-18.701	32.622	2.007	9.900	6.152	3	3	7	6	3	111.369	1.065	0.731	0.334	10.708	1.195	31.252	37.348	9.051	12.505	43.176	6.360	31.557	-0.001	-0.001	43.210	3.096	44.210	2.731	42.146	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.105	0.000	10.000	3.735	37.348	43.176
169	5.750	18.865	-5.750	-18.865	32.310	1.872	8.040	5.794	3	3	7	6	3	111.369	1.074	0.735	0.339	10.873	1.192	30.953	36.890	8.896	12.216	42.504	5.993	31.236	-0.003	-0.003	42.624	3.071	43.624	2.717	41.363	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.083	0.000	10.000	3.689	36.890	42.504
170	5.800	19.029	-5.800	-19.029	29.952	1.876	8.360	6.263	3	3	7	6	8	111.369	1.084	0.739	0.344	11.037	1.189	28.694	34.105	8.475	11.539	39.069	6.498	28.869	-0.003	-0.003	39.182	2.844	40.182	2.768	44.151	0.000	0.000	0.000	0.000	0.000	0.000	1.925	0.000	10.000	3.410	34.105	39.069
171	5.850	19.193	-5.850	-19.193	29.289	1.711	14.300	5.842	3	3	7	6	3	111.369	1.093	0.743	0.350	11.201	1.185	28.059	33.260	8.228	11.129	37.954	6.068	28.197	0.003	0.003	37.823	2.763	38.823	2.754	43.415	0.000	0.000	0.000	0.000	0.000	0.000	1.881	0.012	10.000	3.326	33.260	37.954
172	5.900	19.357	-5.900	-19.357	45.119	1.349	23.850	2.990	6	5	8	6	4	114.551	1.102	0.747	0.355	11.365	1.182	17.290	20.437	10.893	12.876	58.920	3.065	44.017	0.009	0.009	58.398	4.251	59.398	2.453	28.608	48.027	36.392	-0.272	2.909	131.297	0.000	0.000	0.000	5.109	51.093	51.093
173	5.950	19.521	-5.950	-19.521	72.884	1.067	11.810	1.464	7	5	8	6	5	117.733	1.112	0.752	0.360	11.529	1.179	23.274	27.430	15.036	17.721	95.508	1.487	71.773	0.000	0.000	95.496	6.947	96.496	2.087	15.417	61.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
227	8.650	28.379	-8.650	-28.379	37.270	2.205	14.440	5.916	3	3	8	6	3	111.369	1.612	0.976	0.636	20.393	1.035	35.705	36.939	10.568	10.822	36.563	6.184	35.659	-0.005	-0.005	36.753	3.527	37.753	2.772	44.372	0.000	0.000	0.000	0.000	2.378	0.000	10.000	3.694	36.939	36.563
228	8.700	28.543	-8.700	-28.543	43.223	2.160	14.950	4.997	4	4	8	6	3	114.551	1.621	0.980	0.641	20.552	1.032	27.605	28.499	11.621	11.921	42.478	5.192	41.603	-0.004	-0.004	42.656	4.096	43.656	2.672	38.967	42.916	35.540	-0.408	3.232	139.748	0.000	0.000	0.000	4.275	42.748	42.478
229	8.750	28.707	-8.750	-28.707	54.738	2.296	4.490	4.195	5	4	8	6	4	114.551	1.631	0.984	0.647	20.721	1.030	26.220	27.009	13.791	14.206	53.989	4.323	53.108	-0.009	-0.010	54.504	5.230	55.504	2.542	32.605	49.623	36.658	-0.360	2.872	157.271	0.000	0.000	0.000	5.402	54.019	54.019
230	8.800	28.871	-8.800	-28.871	69.435	2.667	3.960	3.841	5	4	8	6	4	114.551	1.640	0.988	0.652	20.885	1.028	33.259	34.187	16.687	17.153	68.622	3.934	67.795	-0.008	-0.008	69.156	6.640	70.156	2.443	28.190	56.378	37.784	-0.362	2.555	177.451	0.000	0.000	0.000	6.837	68.374	68.374
231	8.850	29.035	-8.850	-29.035	74.244	3.098	13.450	4.173	5	4	8	6	4	114.551	1.650	0.993	0.657	21.049	1.026	35.563	36.476	17.908	18.368	73.164	4.268	72.595	-0.003	-0.003	73.403	7.072	74.403	2.451	28.524	58.236	38.093	-0.403	2.480	184.166	0.000	0.000	0.000	7.295	72.952	72.952
232	8.900	29.199	-8.900	-29.199	68.739	3.524	4.710	5.127	11	4	8	6	8	130.461	1.660	0.998	0.662	21.213	1.023	65.852	67.376	17.313	17.714	67.272	5.253	67.081	-0.007	-0.008	67.788	6.571	68.788	2.542	32.578	55.957	37.714	-0.510	2.575	177.045	0.000	0.000	0.000	6.738	67.376	67.376
233	8.950	29.363	-8.950	-29.363	59.702	3.134	-1.210	5.249	11	4	8	6	8	130.461	1.670	1.003	0.667	21.377	1.020	57.195	58.356	15.410	15.723	57.875	5.400	58.033	-0.012	-0.012	58.577	5.723	59.577	2.591	34.938	51.837	37.027	-0.502	2.765	165.171	0.000	0.000	0.000	5.836	58.356	58.356
234	9.000	29.527	-9.000	-29.527	55.425	3.514	0.860	6.340	3	3	8	6	8	111.369	1.680	1.008	0.672	21.542	1.018	53.098	54.046	14.964	15.033	53.344	6.538	53.746	-0.012	-0.012	53.985	5.307	54.985	2.680	39.385	0.000	0.000	0.000	0.000	0.000	0.000	10.000	5.405	54.046	53.344
235	9.050	29.691	-9.050	-29.691	51.722	3.411	8.350	6.595	3	3	8	6	8	111.369	1.689	1.012	0.677	21.706	1.016	49.550	50.335	14.225	14.200	49.463	6.817	50.034	-0.008	-0.008	49.874	4.930	50.874	2.715	41.250	0.000	0.000	0.000	0.000	0.000	0.000	10.000	5.033	50.335	49.463
236	9.100	29.855	-9.100	-29.855	48.073	3.131	0.520	6.513	3	3	8	6	8	111.369	1.698	1.016	0.682	21.870	1.014	46.054	46.691	13.360	13.247	45.665	6.751	46.375	-0.014	-0.014	46.321	4.604	47.321	2.735	42.315	0.000	0.000	0.000	0.000	0.000	0.000	10.000	4.669	46.691	45.665
237	9.150	30.019	-9.150	-30.019	43.289	2.848	-3.420	6.579	3	3	8	6	8	111.369	1.708	1.020	0.688	22.034	1.012	41.471	41.961	12.277	12.073	40.784	6.849	41.582	-0.018	-0.019	41.562	4.157	42.562	2.772	44.391	0.000	0.000	0.000	0.000	0.000	0.000	10.000	4.196	41.961	40.784
238	9.200	30.183	-9.200	-30.183	37.374	2.491	-4.130	6.665	3	3	7	5	8	111.369	1.717	1.024	0.693	22.198	1.010	35.805	36.157	10.914	10.619	34.837	6.986	35.658	-0.022	-0.023	35.639	3.593	36.639	2.825	47.423	0.000	0.000	0.000	0.000	0.000	0.000	10.000	3.616	36.157	34.837
239	9.250	30.347	-9.250	-30.347	33.525	2.130	-3.980	6.353	3	3	7	5	3	111.369	1.726	1.028	0.698	22.362	1.008	32.117	32.370	9.914	9.552	30.946	6.698	31.800	-0.025	-0.026	31.746	3.224	32.746	2.847	48.741	0.000	0.000	0.000	0.000	0.000	0.000	10.000	3.237	32.370	30.946
240	9.300	30.511	-9.300	-30.511	30.640	1.845	0.020	6.022	3	3	7	5	3	111.369	1.735	1.032	0.703	22.526	1.006	29.353	29.527	9.140	8.725	28.020	6.383	28.906	-0.023	-0.024	28.701	2.935	29.701	2.862	49.662	0.000	0.000	0.000	0.000	0.000	0.000	10.000	2.953	29.527	28.020
241	9.350	30.675	-9.350	-30.675	29.854	1.706	5.460	5.714	3	3	7	5	3	111.369	1.744	1.036	0.708	22.691	1.004	28.600	28.713	8.877	8.425	27.144	6.069	28.111	-0.018	-0.019	27.663	2.844	28.663	2.856	49.322	0.000	0.000	0.000	0.000	0.000	0.000	10.000	2.871	28.713	27.144
242	9.400	30.840	-9.400	-30.840	30.392	1.578	22.810	5.192	3	3	7	5	3	111.369	1.753	1.040	0.713	22.855	1.002	29.116	29.175	8.865	8.387	27.548	5.510	28.640	-0.000	-0.000	27.549	2.843	28.549	2.823	47.304	0.000	0.000	0.000	0.000	0.000	0.000	10.000	2.917	29.175	27.548
243	9.450	31.004	-9.450	-31.004	38.537	1.802	29.890	4.676	4	4	8	6	3	114.551	1.763	1.044	0.718	23.019	1.000	24.612	24.613	10.574	10.091	35.232	4.900	36.775	0.006	0.006	35.026	3.602	36.026	2.711	41.017	38.714	34.840	-0.338	3.484	134.307	0.000	0.000	0.000	3.692	36.919	35.232
244	9.500	31.168	-9.500	-31.168	34.206	1.920	12.180	5.613	3	3	7	5	3	111.369	1.772	1.048	0.723	23.183	0.998	32.769	32.705	9.898	9.349	30.952	5.920	32.435	-0.010	-0.011	31.279	3.241	32.279	2.808	46.478	0.000	0.000	0.000	0.000	0.000	0.000	10.000	3.271	32.705	30.952
245	9.550	31.332	-9.550	-31.332	36.135	2.048	15.140	5.668	3	3	8	6	3	111.369	1.781	1.052	0.729	23.347	0.996	34.617	34.483	10.374	9.787	32.658	5.961	34.354	-0.007	-0.007	32.901	3.416	33.901	2.794	45.658	0.000	0.000	0.000	0.000	0.000	0.000	10.000	3.448	34.483	32.658
246	9.600	31.496	-9.600	-31.496	36.779	2.183	25.470	5.935	3	3	8	6	3	111.369	1.790	1.056	0.734	23.511	0.994	35.234	35.032	10.617	9.984	33.136	6.239	34.990	0.002	0.002	33.077	3.447	34.077	2.804	46.221	0.000	0.000	0.000	0.000	0.000	0.000	10.000	3.503	35.032	33.136
247	9.650	31.660	-9.650	-31.660	34.347	2.326	10.800	6.772	3	3	7	5	8	111.369	1.799	1.060	0.739	23.675	0.992	32.905	32.654	10.289	9.602	30.708	7.146	32.549	-0.012	-0.012	31.086	3.258	32.086	2.869	50.106	0.000	0.000	0.000	0.000	0.000	0.000	10.000	3.265	32.654	30.708
248	9.700	31.824	-9.700	-31.824	38.128	2.083	14.140	5.463	3	3	8	6	3	111.369	1.808	1.064	0.744	23.839	0.990	36.527	36.180	10.794	10.088	34.137	5.735	36.321	-0.008	-0.008	34.421	3.610	35.421	2.769	44.211	0.000	0.000	0.000	0.000	0.000	0.000	10.000	3.618	36.180	34.137
249	9.750	31.988	-9.750	-31.988	29.872	1.681	0.330	5.627	3	3	7	5	3	111.369	1.817	1.068	0.749	24.004	0.989	28.617	28.292	8.914	8.183	26.269	5.992	28.055	-0.025	-0.026	26.961	2.861	27.961	2.863	49.702	0.000	0.000	0.000	0.000	0.000	0.000	10.000	2.829	28.292	26.269
250	9.800	32.152	-9.800	-32.152	24.233	1.304	-1.180	5.381	3	3	7	5	3	111.369	1.827	1.072	0.754	24.168	0.987	23.215	22.908	7.505	6.757	20.902	5.820	22.407	-0.033	-0.035	21.639	2.325	22.639	2.926	53.637	0.000	0.000	0.000	0.000	0.000	0.000	10.000	2.291	22.908	20.902
251	9.850	32.316	-9.850	-32.316	20.910	1.407	6.450	6.729	3	3	7	5	3	111.369	1.836	1.076	0.759	24.332	0.985	20.032	19.730	6.987	6.184	17.728	7.376	19.075	-0.027	-0.029	18.246	1.984	19.246	3.049	61.812	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.272	19.730	17.728
252	9.900	32.480	-9.900	-32.480	20.783	1.390	18.150	6.688	3	3	7	5	3	111.369	1.845	1.080	0.764	24.496	0.983	19.910	19.574	6.954	6.124	17.536	7.339	18.939	-0.010	-0.010	17.719	1.937	18.719	3.050	61.949	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.263	19.574	17.536
253	9.950	32.644	-9.950	-32.644	28.566	1.254	60.270	4.390	4	3	7	5	3	114.551	1.854	1.085	0.770	24.660	0.981	18.244	17.902	8.275	7.450	24.639	4.694	26.713	0.039	0.042	23.613	2.556	24.613	2.810	46.590	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.782	0.139	9.849	2.685	26.853	24.639
254	10.000	32.808	-10.000	-32.808	29.045	1.719	12.000	5.918	3	3	7	5	3	111.369	1.863	1.089	0.775	24.824	0.979	27.825	27.250	8.830	7.926	24.976	6.324	27.182	-0.014	-0.015	25.344	2.747	26.344	2.895	51.670	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.813	0.000	10.000	2.725	27.250	24.976
255	10.050	32.972	-10.050	-32.972	27.519	1.845	17.390	6.705	3	3	7	5	3	111.369	1.873	1.093	0.780	24.988	0.978	26.363	25.771	8.663	7.715	23.479	7.194	25.647	-0.009	-0.009	23.695	2.584	24.695	2.953	55.382	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.710	0.000	9.122	2.577	25.771	23.479
256	10.100	33.136	-10.100	-33.136	27.522	1.763	8.350	6.406	3	3	7	5	3	111.369	1.882	1.097	0.785	25.153	0.976	26.366	25.727	8.598	7.627	23.388	6.876	25.641	-0.019	-0.020	23.866	2.612	24.866	2.941	54.568	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.710	0.000	9.066	2.573	25.727	23.388
257	10.150	33.300	-10.150	-33.300	28.549	1.796	25.420	6.291	3	3	7	5	3	111.369	1.891	1.101	0.790	25.317	0.974	27.350	26.638	8.828	7.820	24.227	6.737	26.659	0.000	0.000	24.224	2.659	25.224	2.923	53.472	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.778	0.000	9.588	2.664	26.638	24.227
258	10.200	33.464	-10.200	-33.464	28.223	1.862	16.460	6.598	3	3	7	5	3	111.369	1.900	1.105	0.795	25.481	0.972	27.037	26.286	8.832	7.786	23.836	7.074	26.324	-0.010	-0.011	24.090	2.655	25.090	2.943	54.746	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.756	0.000	9.343	2.629	26.286	23.836
259	10.250	33.628	-10.250	-33.628	28.593	1.699	13.320	5.942	3	3	7	5	3	111.369	1.909	1.109	0.800	25.645	0.970	27.392	26.583	8.762	7.701	24.075	6.367	26.685	-0.013	-0.014	24.422	2.699	25.422	2.908	52.513	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.780	0.000	9.493	2.658	26.583	24.075
260	10.300	33.792	-10.300	-33.792	29.232	1.120	3.450	3.831	5	4	7	5	3	114.551	1.918	1.113	0.805	25.809	0.969	14.002	13.563	8.292	7.269	24.551	4.100	27.314	-0.024	-0.026	25.178	2.790	26.178	2.772	44.411	0.000	0.000	0.000	0.000	0.000	0.000	10.000	33.367	-0.220	0.000	0.000	0.000	0.000	2.713	27.125	24.551
261	10.350	33.956	-10.350	-33.956	35.804	0.559	-0.910	1.561	7	5	7	5	5	117.733	1.928	1.117	0.811	25.973	0.967	11.434	11.053	8.523	8.240	30.330	1.650	33.877	-0.023	-0.025	31.081	3.433	32.081	2.432	27.321	35.635	34.327	-0.119	3.676	131.674	0.000	0.000	0.000	3.316	33.159	33.159
262	10.400	34.120	-10.400	-34.120	33.174	0.236	-1.000	0.711	7	5	7	5	5	117.733	1.938	1.122	0.816	26.137	0.965	10.593	10.220	7.373	7.113	27.853	0.756	31.237	-0.026	-0.027	28.608	3.181	29.608	2.267	21.324	33.390	33.952	-0.047	3.802	126.191	0.000	0.000	0.000	3.066	30.661	30.661
263	10.450	34.284	-10.450	-34.284	33.242	0.175	3.540	0.526	7	5	7	5	5	117.733	1.947	1.126	0.821	26.302	0.963	10.615	10.221	7.202	6.934	27.753	0.559	31.296	-0.021	-0.023	28.424	3.174	29.424	2.207	19.223	33.353	33.953	-0.024	3.804	126.490	0.000	0.000	0.000	3.066	30.662	30.662
264	10.500	34.448	-10.500	-34.448	29.629	0.229	22.320	0.773	7	5	7	5	5	117.733	1.957	1.131	0.826	26.466	0.961	9.462	9.092	6.769	6.505	24.478	0.828	27.673	-0.004	-0.005	24.592	2.772	25.592	2.331	23.680	30.036	33.393	-0.040	3.000	0.000	0.000	0.000	0.000	2.727	27.275	27.275
265	10.550	34.612	-10.550	-34.612	26.515	0.265	53.600	0.999	7	5	7	5	5	117.733	1.967	1.136	0.831	26.630	0.959	8.467	8.120	6.338	6.078	21.627	1.079	24.549	0.032	0.034	20.885	2.380	21.885	2.431	27.703	0.000	0.000	0.000	0.000	0.000	0.000	10.000	32.853	-0.045	0.000	0.000	0.000	0.000	2.436	24.359	24.359
266	10.600	34.776	-10.600	-34.776	29.009	0.700	84.790	2.413	6	4	6	5	4	114.551	1.976	1.140	0.836	26.794	0.957	11.116	10.640	7.737	6.605	23.725	2.589	27.034	0.062	0.067	22.136	2.526	23.136	2.656	38.169	0.000	0.000	0.000	0.000	0.000	0.000	10.000	33.274	-0.127	0.000	0.000	0.000	0.000	2.660	26.599	23.725
267	10.650	34.941	-10.650	-34.941	33.687	1.694	92.420	5.029	3	3	6	5	3	111.369	1.985	1.144	0.841	26.958	0.955	32.272	30.832	9.764	8.387	27.721	5.343	31.702	0.061	0.064	25.934	2.951	26.934	2.811	46.650	0.000	0.000	0.000	0.000	0.000	0.000	10.000	2.114	0.256	10.000	3.083	30.832	27.721
268	10.700	35.105	-10.700	-35.105	33.397	2.415	21.890	7.231	3	3	7	5	3	111.369	1.995	1.148	0.846	27.122	0.954	31.994	30.513	10.349	8.851	27.363	7.690	31.403	-0.005	-0.005	27.505	3.134	28.505	2.927	53.701	0.000	0.000	0.000	0.000	0.000	0.000	10.000	2.094	0.000	10.000	3.051	30.513	27.363
269	10.750	35.269	-10.750	-35.269	33.273	2.462	2.010	7.399	3	3	7	5	8	111.369	2.004	1.152	0.852	27.286	0.952	31.875	30.346	10.371	8.834	27.152	7.873	31.270	-0.024	-0.025	27.837	3.181	28.837	2.937	54.321	0.000	0.000	0.000	0.000	0.000	0.000	10.000	2.086	0.000	10.000	3.035	30.346	27.152
270	10.800	35.433	-10.800	-35.433	33.376	2.427	5.800	7.272	3	3	7	5	8	111.369	2.013	1.156	0.857	27.451	0.950	31.974	30.388	10.370	8.802	27.139	7.738	31.364	-0.020	-0.022	27.724	3.180	28.724	2.931	53.983	0.000	0.000	0.000	0.000	0.000	0.000	10.000	2.092	0.000	10.000	3.039	30.388	27.139
271	10.850	35.597	-10.850	-35.597	30.209	2.321	4.590	7.683	3	3	7	5	8	111.369	2.022	1.160	0.862	27.615	0.949	28.940	27.456	9.692	8.141	24.306	8.234	28.188	-0.024	-0.025	24.925	2.880	25.925	2.984	57.422	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.880	0.000	9.638	2.746	27.456	24.306
272	10.900	35.761	-10.900	-35.761	25.162	2.064	5.590	8.203	0	3	7	5	8	118.624	2.029	1.164	0.867	27.779	0.947	24.106	22.828	8.529	7.031	19.873	8.923	23.132	-0.030	-0.033	20.521	2.400	21.521	3.070	63.353	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.543	0.000	7.014	2.283	22.828	19.873
273	10.950	35.925	-10.950	-35.925	24.529	1.491	-0.160	6.079	3	3	7	5	3	111.369	2.041	1.169	0.872	27.943	0.945	23.499	22.212	7.902	6.473	19.249	6.630	22.489	-0.036	-0.039	20.000	2.350	21.000	2.991	57.863	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.500	0.000	6.674	2.221	22.212	19.249
274	11.000	36.089	-11.000	-36.089	24.165	1.420	2.430	5.876	3	3	7	5	3	111.369	2.050	1.173	0.877	28.107	0.944	23.150	21.845	7.770	6.332	18.865	6.421	22.116	-0.033	-0.036	19.548	2.308	20.548	2.988	57.658	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.475	0.000	6.468	2.184	21.845	18.865
275	11.050	36.253	-11.050	-36.253	19.592	1.280	11.510	6.533	3	3	6	5	3	111.369	2.059	1.177	0.882	28.271	0.942	18.769	17.680	6.775	5.380	14.905	7.300	17.534	-0.027	-0.030	15.350	1.842	16.350	3.101	65.535	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.169	0.000	4.511	1.768	17.680	14.905
276	11.100	36.417	-11.100	-36.417	17.871	0.949	11.330	5.310	3	3	6	4	3	111.369	2.068	1.181	0.887	28.435	0.940	17.120	16.100	6.094	4.766	13.389	6.005	15.803	-0.030	-0.034	13.841	1.678	14.841	3.080	64.020	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.054	0.000	3.845	1.610	16.100	13.389
277	11.150	36.581	-11.150	-36.581	17.090	0.730	41.600	4.272	3	3	6	4	3	111.369	2.077	1.185	0.892	28.599	0.939	16.372	15.370	5.678	4.396	12.676	4.862	15.013	0.024	0.027	12.333	1.513	13.333	3.040	61.188	0.000	0.000	0.000	0.000	0.000	0.000	10.000	1.001	0.051	3.548	1.537	15.370	12.676
278	11.200	36.745	-11.200	-36.745	15.308	0.543	41.380	3.547	4	3	6	4	3	114.551	2.087	1.189	0.898	28.764	0.937	9.777	9.163	5.084	3.857	11.125	4.107	13.223	0.026	0.030	10.794	1.343	11.794	3.039	61.155	0.000	0.000	0.000	0.000	0.000	0.000	10.000	0.882	0.049	2.942	1.374	13.744	11.125
279	11.250	36.909	-11.250	-36.909	13.698	0.489	68.560	3.570	4	3	5	4	3	114.551	2.096	1.193	0.903	28.928	0.935	8.748	8.184	4.711	3.492	9.728	4.214	11.603	0.090	0.107	8.690	1.107	9.690	3.092	64.933	0.000	0.000	0.000	0.000	0.000	0.000	10.000	0.774	0.155	2.441	1.228	12.276	9.728
280	11.300	37.073	-11.300	-37.073	13.892	0.592	115.730	4.261	3	3	4	3	3	111.369	2.105	1.197	0.908	29.092	0.934	13.309	12.429	4.914	3.636	9.849	5.022	11.788	0.195	0.229	7.589	0.985	8.589	3.134	67.991	0.000	0.000	0.000	0.000	0.000	0.000	10.000	0.786	0.338	2.483	1.243	12.429	9.849
281	11.350	37.237	-11.350	-37.237	15.112	0.845	142.860	5.592	3	3	4	3	2	111.369	2.114	1.201	0.913	29.256	0.932	14.477	13.497	5.489	4.103	10.823	6.501	12.998	0.235	0.273	7.870	1.021	8.870	3.173	70.881	0.000	0.000	0.000	0.000	0.000	0.000	10.000	0.867	0.444	2.830	1.350	13.497	10.823
282	11.400	37.401	-11.400	-37.401	23.092	0.695	94.910	3.010	5	4	6	5	3	114.551	2.124	1.206	0.918	29.420	0.931	11.061	10.295	6.757	5.315	17.401	3.314	20.970	0.089	0.098	15.704	1.928	16.704	2.828	47.645	0.000	0.000	32.050	-0.114	0.000	0.000	0.000	0.000	2.059	20.589	17.401
283	11.450	37.565	-11.450	-37.565	35.820	0.486	14.360	1.357	7	5	7	5	5	117.733	2.133	1.210	0.923	29.584	0.929	11.438	10.626	8.449	7.849	27.853	1.443	33.687	-0.013	-0.014	28.245	3.389	29.245	2.402	26.489	34.507	34.139	-0.098	3.764	134.886	0.000	0.000	0.000	3.188	31.879	31.879
284	11.500	37.729	-11.500	-37.729	29.005	0.488	12.020	1.682	6	4	7	5	4	114.551	2.143	1.214	0.928	29.748	0.927	11.115	10.307	7.283	6.754	22.130	1.817	26.863	-0.019	-0.021	22.585	2.743	23.585	2.535	32.283	0.000	0.000	33.122	-0.095	0.000	0.000	0.000	0.000	2.577	25.767	25.767
285	11.550	37.893	-11.550	-37.893	19.965	0.489	42.370	2.449	5	4	6	5	4	114.551	2.152	1.219	0.933	29.913	0.926	9.563	8.852	5.880	4.496	14.623	2.745	17.813	0.020	0.022	14.303	1.786	15.303	2.840	48.318	0.000	0.000	31.329	-0.081	0.000	0.000	0.000	0.000	1.770	17.705	14.623
286	11.600	38.057	-11.600	-38.057	18.516	0.500	114.740	2.700	5	3	5	4	3	114.551	2.162	1.223	0.939	30.077	0.924	8.869	8.196	5.641	4.255	13.380	3.057	16.356	0.143	0.162	11.217	1.431	12.217	2.898	51.893	0.000	0.000	0.000	0.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
340	14.300	46.915	-14.300	-46.915	339.701	9.399	680.990	2.767	12	8	9	7	8	120.915	2.687	1.472	1.215	38.940	0.842	162.717	137.066	0.000	0.000	229.093	2.789	337.015	0.059	0.059	215.470	30.507	216.470	1.959	0.000	0.000	44.418	-0.414	0.000	0.000	0.000	0.000	0.000	27.413	274.133	274.133
341	14.350	47.079	-14.350	-47.079	276.702	8.221	58.060	2.971	12	8	10	7	8	120.915	2.697	1.476	1.220	39.104	0.841	132.540	111.465	0.000	0.000	185.657	3.000	274.007	0.002	0.002	185.255	26.334	186.255	2.034	0.000	90.255	43.430	-0.414	0.000	0.000	0.000	0.000	0.000	22.293	222.931	222.931
342	14.400	47.244	-14.400	-47.244	199.503	6.925	1107.440	3.471	12	8	0	6	8	120.915	2.707	1.481	1.225	39.268	0.840	95.562	80.237	0.000	0.000	132.911	3.519	196.798	0.167	0.169	110.393	15.801	111.393	2.172	0.000	80.832	41.859	-0.392	1.967	392.588	0.000	0.000	0.000	16.047	160.473	160.473
343	14.450	47.408	-14.450	-47.408	191.629	8.659	1545.640	4.519	11	9	0	0	8	130.461	2.717	1.486	1.231	39.433	0.838	183.581	153.870	0.000	0.000	127.140	4.584	188.913	0.245	0.249	95.499	13.736	96.499	2.277	0.000	79.628	41.659	-0.482	1.989	381.273	0.000	0.000	0.000	15.387	153.870	153.870
344	14.500	47.572	-14.500	-47.572	231.199	6.824	1545.640	2.952	7	8	0	0	8	117.733	2.727	1.492	1.236	39.597	0.837	73.830	61.776	0.000	0.000	153.243	2.987	228.473	0.203	0.206	121.712	17.527	122.712	2.078	0.000	84.959	42.547	-0.360	1.974	456.653	0.000	0.000	0.000	18.533	185.328	185.328
345	14.550	47.736	-14.550	-47.736	225.229	7.956	1545.640	3.532	12	8	0	0	8	120.915	2.737	1.496	1.241	39.761	0.835	107.885	90.130	0.000	0.000	148.766	3.576	222.493	0.209	0.211	117.337	16.955	118.337	2.149	0.000	84.165	42.415	-0.406	1.958	441.147	0.000	0.000	0.000	18.026	180.261	180.261
346	14.600	47.900	-14.600	-47.900	187.639	9.641	1545.640	5.138	11	9	0	0	8	130.461	2.747	1.501	1.246	39.925	0.834	179.758	149.916	0.000	0.000	123.198	5.214	184.893	0.250	0.254	91.881	13.354	92.881	2.330	0.000	78.881	41.534	-0.565	2.006	376.559	0.000	0.000	0.000	14.992	149.916	149.916
347	14.650	48.064	-14.650	-48.064	199.859	10.235	1545.640	5.121	11	9	0	0	8	130.461	2.758	1.507	1.251	40.089	0.832	191.465	159.383	0.000	0.000	130.847	5.193	197.102	0.235	0.238	99.650	14.525	100.650	2.314	0.000	80.637	41.827	-0.578	1.973	394.503	0.000	0.000	0.000	15.938	159.383	159.383
348	14.700	48.228	-14.700	-48.228	198.689	10.221	1545.640	5.144	11	9	0	0	8	130.461	2.769	1.513	1.256	40.253	0.831	190.344	158.158	0.000	0.000	129.583	5.217	195.921	0.236	0.240	98.504	14.413	99.504	2.317	0.000	80.415	41.790	-0.580	1.977	393.063	0.000	0.000	0.000	15.816	158.158	158.158
349	14.750	48.392	-14.750	-48.392	207.439	9.736	1545.640	4.693	11	9	0	0	8	130.461	2.779	1.518	1.261	40.417	0.829	198.727	164.819	0.000	0.000	134.866	4.757	204.661	0.226	0.230	103.905	15.251	104.905	2.274	0.000	81.598	41.987	-0.520	1.961	406.921	0.000	0.000	0.000	16.482	164.819	164.819
350	14.800	48.556	-14.800	-48.556	214.309	8.682	1545.640	4.051	12	8	0	0	8	120.915	2.790	1.523	1.266	40.582	0.828	102.654	84.994	0.000	0.000	138.911	4.105	211.520	0.219	0.222	108.059	15.909	109.059	2.213	0.000	82.483	42.135	-0.447	1.954	418.911	0.000	0.000	0.000	16.999	169.987	169.987
351	14.850	48.720	-14.850	-48.720	225.949	7.455	1545.640	3.299	12	8	0	0	8	120.915	2.800	1.528	1.272	40.746	0.827	108.230	89.469	0.000	0.000	146.089	3.341	223.150	0.208	0.211	115.337	17.024	116.337	2.127	0.000	83.954	42.380	-0.383	1.958	442.590	0.000	0.000	0.000	17.894	178.938	178.938
352	14.900	48.884	-14.900	-48.884	227.689	7.279	1545.640	3.197	12	8	0	0	8	120.915	2.810	1.533	1.277	40.910	0.825	109.063	90.017	0.000	0.000	146.761	3.237	224.881	0.206	0.209	116.108	17.191	117.108	2.114	0.000	84.129	42.409	-0.375	1.961	446.601	0.000	0.000	0.000	18.003	180.034	180.034
353	14.950	49.048	-14.950	-49.048	228.839	5.802	1545.640	2.535	7	5	0	0	5	117.733	2.819	1.538	1.282	41.074	0.824	73.076	60.223	46.189	38.065	147.057	2.567	226.021	0.205	0.208	116.501	17.301	117.501	2.031	13.814	84.230	42.426	-0.322	1.963	449.291	0.000	0.000	0.000	18.067	180.668	180.668
354	15.000	49.212	-15.000	-49.212	243.399	11.917	1545.640	4.896	11	9	0	0	8	130.461	2.830	1.543	1.287	41.238	0.823	233.176	191.848	0.000	0.000	156.010	4.954	240.571	0.193	0.195	125.558	18.696	126.558	2.253	0.000	85.951	42.713	-0.584	2.017	491.154	0.000	0.000	0.000	19.185	191.848	191.848
355	15.050	49.376	-15.050	-49.376	288.909	11.329	1545.640	3.921	12	8	0	0	8	120.915	2.840	1.548	1.292	41.402	0.821	138.387	113.668	0.000	0.000	184.895	3.960	286.070	0.163	0.164	154.548	23.056	155.548	2.132	0.000	90.816	43.523	-0.485	0.000	0.000	0.000	0.000	0.000	22.734	227.337	227.337
356	15.100	49.540	-15.100	-49.540	269.379	11.729	1545.640	4.354	11	9	0	0	8	130.461	2.850	1.553	1.297	41.566	0.820	258.065	211.615	0.000	0.000	171.690	4.401	266.530	0.174	0.176	141.447	21.185	142.447	2.187	0.000	88.761	43.181	-0.525	0.000	0.000	0.000	0.000	0.000	21.161	211.615	211.615
357	15.150	49.704	-15.150	-49.704	281.389	11.410	1545.640	4.055	12	8	0	0	8	120.915	2.860	1.558	1.302	41.731	0.819	134.785	110.340	0.000	0.000	178.822	4.097	278.530	0.167	0.169	148.683	22.335	149.683	2.151	0.000	89.964	43.381	-0.495	0.000	0.000	0.000	0.000	0.000	22.068	220.681	220.681
358	15.200	49.868	-15.200	-49.868	300.729	0.010	1545.640	0.003	10	0	0	0	0	127.279	2.871	1.563	1.307	41.895	0.817	48.016	39.244	0.000	0.000	190.613	0.003	297.860	0.156	0.158	160.575	24.188	161.575	1.667	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.547	235.466	235.466
359	15.250	50.032	-15.250	-50.032	321.089	0.010	1545.640	0.003	10	0	0	6	0	127.279	2.881	1.569	1.313	42.059	0.816	51.267	41.830	0.000	0.000	202.945	0.003	318.209	0.146	0.147	173.012	26.138	174.012	1.671	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	25.098	250.981	250.981

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
113	2.950	9.678	-2.950	-9.678	14.222	0.474	3.540	3.333	4	4	6	5	4	114.551	0.564	0.543	0.021	0.680	1.387	9.083	12.598	3.915	7.233	25.172	3.470	13.658	0.006	0.007	25.007	1.352	26.007	2.717	41.344	0.000	31.640	-0.184	0.000	0.000	0.000	0.000	0.000	1.890	18.897	25.172
114	3.000	9.842	-3.000	-9.842	10.935	0.375	2.430	3.429	4	3	6	5	3	114.551	0.573	0.547	0.026	0.844	1.382	6.984	9.649	3.191	5.771	18.947	3.619	10.362	0.005	0.005	18.857	1.040	19.857	2.823	47.342	0.000	0.000	0.000	0.000	0.000	0.691	0.006	6.512	1.447	14.473	18.947
115	3.050	10.006	-3.050	-10.006	9.229	0.344	20.730	3.727	3	3	5	5	3	111.369	0.583	0.551	0.031	1.008	1.376	8.842	12.169	2.836	5.033	15.692	3.978	8.647	0.067	0.071	14.575	0.822	15.575	2.913	52.793	0.000	0.000	0.000	0.000	0.000	0.577	0.077	4.875	1.217	12.169	15.692
116	3.100	10.170	-3.100	-10.170	10.424	0.321	23.120	3.079	4	4	5	5	3	114.551	0.592	0.555	0.037	1.172	1.371	6.658	9.129	3.033	5.379	17.711	3.265	9.833	0.066	0.070	16.477	0.930	17.477	2.818	47.053	0.000	30.102	-0.119	0.000	0.000	0.000	0.000	0.000	1.369	13.694	17.711
117	3.150	10.335	-3.150	-10.335	12.577	0.406	12.360	3.228	4	4	6	5	3	114.551	0.601	0.560	0.042	1.336	1.366	8.033	10.972	3.552	6.310	21.407	3.390	11.976	0.027	0.029	20.792	1.168	21.792	2.764	43.955	0.000	30.980	-0.155	0.000	0.000	0.000	0.000	0.000	1.646	16.458	21.407
118	3.200	10.499	-3.200	-10.499	10.303	0.385	-4.300	3.737	3	3	6	5	3	111.369	0.611	0.564	0.047	1.500	1.361	9.870	13.433	3.108	5.415	17.198	3.972	9.693	-0.018	-0.019	17.519	1.000	18.519	2.881	50.838	0.000	0.000	0.000	0.000	0.000	0.646	0.000	5.607	1.343	13.433	17.198
119	3.250	10.663	-3.250	-10.663	7.803	0.330	-4.340	4.229	3	3	5	4	3	111.369	0.620	0.568	0.052	1.664	1.356	7.475	10.137	2.568	4.348	12.656	4.594	7.183	-0.024	-0.026	12.986	0.760	13.986	3.025	60.163	0.000	0.000	0.000	0.000	0.000	0.479	0.000	3.540	1.014	10.137	12.656
120	3.300	10.827	-3.300	-10.827	7.389	0.223	-0.090	3.018	4	3	5	4	3	114.551	0.629	0.572	0.057	1.829	1.351	4.719	6.377	2.338	3.905	11.825	3.298	6.761	-0.008	-0.009	11.929	0.708	12.929	2.961	55.905	0.000	0.000	0.000	0.000	0.000	0.451	0.000	3.209	0.957	9.565	11.825
121	3.350	10.991	-3.350	-10.991	6.367	0.247	5.870	3.880	3	3	5	4	3	111.369	0.638	0.576	0.062	1.993	1.346	6.099	8.212	2.187	3.567	9.947	4.312	5.729	0.019	0.021	9.737	0.592	10.737	3.091	64.800	0.000	0.000	0.000	0.000	0.000	0.382	0.015	2.517	0.821	8.212	9.947
122	3.400	11.155	-3.400	-11.155	5.635	0.314	8.790	5.572	3	3	4	4	2	111.369	0.647	0.580	0.067	2.157	1.342	5.398	7.243	2.150	3.425	8.601	6.295	4.988	0.037	0.042	8.244	0.514	9.244	3.241	76.248	0.000	0.000	0.000	0.000	0.000	0.333	0.026	2.071	0.724	7.243	8.601
123	3.450	11.319	-3.450	-11.319	22.800	0.462	1.660	2.026	6	5	7	6	5	114.551	0.657	0.584	0.072	2.321	1.337	8.737	11.680	5.704	7.625	37.915	2.086	22.144	-0.001	-0.001	37.950	2.179	38.950	2.527	31.926	31.992	33.719	-0.164	0.000	0.000	0.000	0.000	0.000	2.920	29.201	29.201
124	3.500	11.483	-3.500	-11.483	19.892	0.543	-4.490	2.730	5	4	7	5	4	114.551	0.666	0.589	0.078	2.485	1.332	9.528	12.692	5.204	7.774	32.680	2.824	19.226	-0.011	-0.011	33.050	1.919	34.050	2.618	36.251	0.000	33.050	-0.187	0.000	0.000	0.000	0.000	0.000	2.538	25.384	28.468
125	3.550	11.647	-3.550	-11.647	10.849	0.561	2.990	5.171	3	3	6	5	3	111.369	0.675	0.593	0.083	2.649	1.327	10.393	13.795	3.459	5.714	17.172	5.514	10.174	0.001	0.001	17.153	1.030	18.153	2.974	56.737	0.000	0.000	0.000	0.000	0.000	0.679	0.001	5.593	1.380	13.795	17.172
126	3.600	11.811	-3.600	-11.811	9.613	0.368	8.490	3.828	3	3	5	5	3	111.369	0.685	0.597	0.088	2.813	1.323	9.209	12.183	2.999	4.875	14.969	4.122	8.929	0.018	0.020	14.672	0.896	15.672	2.938	54.423	0.000	0.000	0.000	0.000	0.000	0.595	0.022	4.540	1.218	12.183	14.969
127	3.650	11.975	-3.650	-11.975	7.615	0.245	15.270	3.217	3	3	5	4	3	111.369	0.694	0.601	0.093	2.977	1.318	7.295	9.619	2.449	3.870	11.527	3.539	6.922	0.050	0.055	10.888	0.684	11.888	2.988	57.689	0.000	0.000	0.000	0.000	0.000	0.462	0.048	3.094	0.962	9.619	11.527
128	3.700	12.139	-3.700	-12.139	7.214	0.230	21.530	3.188	3	3	4	4	3	111.369	0.703	0.605	0.098	3.142	1.314	6.911	9.082	2.354	3.670	10.772	3.532	6.512	0.080	0.088	9.823	0.627	10.823	3.011	59.253	0.000	0.000	0.000	0.000	0.000	0.434	0.072	2.811	0.908	9.082	10.772
129	3.750	12.303	-3.750	-12.303	6.853	0.219	21.270	3.196	3	3	4	4	3	111.369	0.712	0.609	0.103	3.306	1.310	6.565	8.598	2.273	3.494	10.092	3.566	6.141	0.082	0.091	9.170	0.593	10.170	3.037	60.996	0.000	0.000	0.000	0.000	0.000	0.410	0.070	2.567	0.860	8.598	10.092
130	3.800	12.467	-3.800	-12.467	6.691	0.290	22.560	4.334	3	3	4	4	3	111.369	0.721	0.613	0.108	3.470	1.305	6.410	8.368	2.358	3.586	9.746	4.858	5.970	0.089	0.100	8.774	0.574	9.774	3.129	67.602	0.000	0.000	0.000	0.000	0.000	0.398	0.075	2.448	0.837	8.368	9.746
131	3.850	12.631	-3.850	-12.631	7.276	0.285	20.160	3.917	3	3	4	4	3	111.369	0.730	0.617	0.113	3.634	1.301	6.970	9.069	2.466	3.757	10.617	4.354	6.546	0.071	0.079	9.780	0.637	10.780	3.071	63.367	0.000	0.000	0.000	0.000	0.000	0.437	0.065	2.755	0.907	9.069	10.617
132	3.900	12.795	-3.900	-12.795	10.782	0.369	22.720	3.422	4	3	5	5	3	114.551	0.739	0.621	0.119	3.798	1.297	6.886	8.930	3.251	5.093	16.180	3.674	10.043	0.055	0.059	15.228	0.965	16.228	2.881	50.808	0.000	0.000	0.000	0.000	0.000	0.670	0.074	5.107	1.339	13.395	16.180
133	3.950	12.959	-3.950	-12.959	19.821	0.481	8.200	2.427	5	4	6	5	4	114.551	0.749	0.625	0.124	3.962	1.292	9.494	12.270	5.145	7.367	30.518	2.522	19.073	0.007	0.007	30.306	1.874	31.306	2.603	35.484	0.000	32.889	-0.161	0.000	0.000	0.000	0.000	0.000	2.454	24.541	27.192
134	4.000	13.123	-4.000	-13.123	14.494	0.467	0.680	3.222	4	4	6	5	3	114.551	0.758	0.630	0.129	4.126	1.288	9.257	11.923	4.080	6.415	21.830	3.400	13.736	-0.007	-0.008	22.001	1.387	23.001	2.758	43.631	0.000	31.377	-0.163	0.000	0.000	0.000	0.000	0.000	1.788	17.884	21.830
135	4.050	13.287	-4.050	-13.287	7.507	0.386	9.170	5.142	3	3	5	4	3	111.369	0.768	0.634	0.134	4.291	1.284	7.192	9.233	2.672	3.953	10.641	5.727	6.740	0.020	0.023	10.401	0.692	11.401	3.143	68.669	0.000	0.000	0.000	0.000	0.000	0.450	0.019	2.763	0.923	9.233	10.641
136	4.100	13.451	-4.100	-13.451	6.414	0.259	31.000	4.038	3	3	4	4	3	111.369	0.777	0.638	0.139	4.455	1.280	6.144	7.863	2.290	3.296	8.844	4.595	5.637	0.129	0.147	7.544	0.522	8.544	3.148	69.022	0.000	0.000	0.000	0.000	0.000	0.376	0.104	2.149	0.786	7.863	8.844
137	4.150	13.615	-4.150	-13.615	5.852	0.232	22.700	3.965	3	3	4	4	3	111.369	0.786	0.642	0.144	4.619	1.276	5.606	7.151	2.147	3.024	7.899	4.579	5.066	0.096	0.111	7.018	0.493	8.018	3.187	71.964	0.000	0.000	0.000	0.000	0.000	0.338	0.071	1.856	0.715	7.151	7.899
138	4.200	13.779	-4.200	-13.779	6.678	0.246	34.940	3.684	3	3	4	3	3	111.369	0.795	0.646	0.149	4.783	1.272	6.398	8.136	2.329	3.318	9.116	4.181	5.883	0.141	0.160	7.657	0.535	8.657	3.113	66.434	0.000	0.000	0.000	0.000	0.000	0.392	0.118	2.237	0.814	8.136	9.116
139	4.250	13.943	-4.250	-13.943	6.707	0.269	28.400	4.011	3	3	4	4	3	111.369	0.804	0.650	0.154	4.947	1.268	6.426	8.146	2.376	3.361	9.090	4.557	5.904	0.109	0.124	7.963	0.558	8.963	3.136	68.147	0.000	0.000	0.000	0.000	0.000	0.394	0.092	2.228	0.815	8.146	9.090
140	4.300	14.107	-4.300	-14.107	6.176	0.241	20.180	3.902	3	3	4	4	3	111.369	0.813	0.654	0.160	5.111	1.264	5.917	7.478	2.237	3.103	8.207	4.494	5.363	0.076	0.088	7.487	0.531	8.487	3.168	70.562	0.000	0.000	0.000	0.000	0.000	0.358	0.059	1.949	0.748	7.478	8.207
141	4.350	14.271	-4.350	-14.271	6.808	0.232	22.120	3.408	3	3	4	4	3	111.369	0.822	0.658	0.165	5.275	1.260	6.522	8.218	2.344	3.272	9.105	3.876	5.986	0.077	0.088	8.305	0.586	9.305	3.094	65.055	0.000	0.000	0.000	0.000	0.000	0.399	0.066	2.233	0.822	8.218	9.105
142	4.400	14.436	-4.400	-14.436	7.484	0.376	31.140	5.024	3	3	4	4	3	111.369	0.832	0.662	0.170	5.440	1.256	7.170	9.007	2.692	3.777	10.058	5.651	6.653	0.107	0.121	8.845	0.624	9.845	3.159	69.832	0.000	0.000	0.000	0.000	0.000	0.444	0.100	2.556	0.901	9.007	10.058
143	4.450	14.600	-4.450	-14.600	13.909	0.572	7.850	4.112	3	3	6	5	3	111.369	0.841	0.666	0.175	5.604	1.252	13.325	16.688	4.154	6.122	19.638	4.377	13.069	0.005	0.005	19.532	1.309	20.532	2.864	49.785	0.000	0.000	0.000	0.000	0.000	0.872	0.009	6.885	1.669	16.688	19.638
144	4.500	14.764	-4.500	-14.764	12.887	0.716	7.580	5.556	3	3	6	5	3	111.369	0.850	0.670	0.180	5.768	1.249	12.346	15.416	4.126	6.009	17.980	5.948	12.038	0.004	0.005	17.896	1.212	18.896	2.981	57.194	0.000	0.000	0.000	0.000	0.000	0.803	0.007	6.004	1.542	15.416	17.980
145	4.550	14.928	-4.550	-14.928	10.280	0.707	9.630	6.877	3	3	6	5	2	111.369	0.859	0.674	0.185	5.932	1.245	9.848	12.260	3.624	5.147	13.989	7.504	9.422	0.011	0.012	13.817	0.956	14.817	3.129	67.622	0.000	0.000	0.000	0.000	0.000	0.628	0.014	4.102	1.226	12.260	13.989
146	4.600	15.092	-4.600	-15.092	7.630	0.572	8.060	7.496	3	3	5	4	2	111.369	0.868	0.678	0.190	6.096	1.241	7.310	9.073	2.982	4.072	9.981	8.458	6.763	0.008	0.009	9.891	0.707	10.891	3.273	78.870	0.000	0.000	0.000	0.000	0.000	0.451	0.008	2.529	0.907	9.073	9.981
147	4.650	15.256	-4.650	-15.256	8.072	0.574	9.950	7.111	3	3	5	4	2	111.369	0.877	0.682	0.195	6.260	1.238	7.733	9.570	3.074	4.196	10.557	7.977	7.195	0.014	0.016	10.388	0.744	11.388	3.238	76.030	0.000	0.000	0.000	0.000	0.000	0.480	0.014	2.733	0.957	9.570	10.557
148	4.700	15.420	-4.700	-15.420	7.170	0.528	3.240	7.364	3	3	5	4	2	111.369	0.886	0.686	0.200	6.424	1.234	6.869	8.476	2.859	3.815	9.167	8.402	6.284	-0.014	-0.016	9.311	0.677	10.311	3.300	81.030	0.000	0.000	0.000	0.000	0.000	0.419	0.000	2.253	0.848	8.476	9.167
149	4.750	15.584	-4.750	-15.584	8.643	0.561	13.220	6.491	3	3	5	4	2	111.369	0.895	0.690	0.206	6.589	1.230	8.280	10.187	3.179	4.314	11.235	7.241	7.747	0.024	0.027	10.935	0.788	11.935	3.190	72.258	0.000	0.000	0.000	0.000	0.000	0.517	0.026	2.983	1.019	10.187	11.235
150	4.800	15.748	-4.800	-15.748	7.608	0.430	4.490	5.652	3	3	5	4	3	111.369	0.905	0.694	0.211	6.753	1.227	7.288	8.941	2.831	3.754	9.665	6.414	6.704	-0.009	-0.011	9.767	0.715	10.767	3.207	73.526	0.000	0.000	0.000	0.000	0.000	0.447	0.000	2.420	0.894	8.941	9.665
151	4.850	15.912	-4.850	-15.912	6.107	0.342	2.690	5.600	3	3	5	4	2	111.369	0.914	0.698	0.216	6.917	1.223	5.850	7.156	2.440	3.105	7.445	6.585	5.193	-0.022	-0.025	7.634	0.577	8.634	3.302	81.268	0.000	0.000	0.000	0.000	0.000	0.346	0.000	1.724	0.716	7.156	7.445
152	4.900	16.076	-4.900	-16.076	5.228	0.238	12.560	4.552	3	3	4	4	2	111.369	0.923	0.702	0.221	7.081	1.220	5.009	6.109	2.123	2.602	6.137	5.527	4.306	0.033	0.040	5.893	0.463	6.893	3.323	83.030	0.000	0.000	0.000	0.000	0.000	0.287	0.021	1.373	0.611	6.109	6.137
153	4.950	16.240	-4.950	-16.240	4.868	0.161	15.770	3.307	3	3	4	3	3	111.369	0.932	0.706	0.226	7.245	1.216	4.664	5.673	1.915	2.291	5.579	4.090	3.937	0.055	0.068	5.202	0.419	6.202	3.282	79.578	0.000	0.000	0.000	0.000	0.000	0.263	0.033	1.237	0.567	5.673	5.579
154	5.000	16.404	-5.000	-16.404	6.481	0.191	16.160	2.947	3	3	4	4	3	111.369	0.941	0.710	0.231	7.409	1.213	6.209	7.530	2.270	2.854	7.807	3.448	5.540	0.042	0.049	7.422	0.573	8.422	3.120	66.916	0.000	0.000	0.000	0.000	0.000	0.369	0.034	1.829	0.753	7.530	7.807
155	5.050	16.568	-5.050	-16.568	5.759	0.185	12.630	3.212	3	3	4	4	3	111.369	0.950	0.714	0.236	7.573	1.209	5.517	6.672	2.132	2.604	6.738	3.847	4.809	0.027	0.033	6.517	0.514	7.517	3.199	72.944	0.000	0.000	0.000	0.000	0.000	0.321	0.020	1.529	0.667	6.672	6.738
156	5.100	16.732	-5.100	-16.732	4.572	0.172	11.580	3.762	3	3	4	4	2	111.369	0.959	0.718	0.241	7.737	1.206	4.380	5.283	1.906	2.190	5.035	4.760	3.613	0.026	0.033	4.867	0.403	5.867	3.356	85.831	0.000	0.000	0.000	0.000	0.000	0.241	0.015	1.113	0.528	5.283	5.035
157	5.150	16.896	-5.150	-16.896	5.894	0.178	15.090	3.020	3	3	4	4	3	111.369	0.969	0.722	0.247	7.902	1.203	5.647	6.791	2.151	2.600	6.826	3.613	4.926	0.038	0.046	6.515	0.520	7.515	3.179	71.405	0.000	0.000	0.000	0.000	0.000	0.329	0.028	1.552	0.679	6.791	6.826
158	5.200	17.060	-5.200	-17.060	5.946	0.226	17.000	3.801	3	3	4	4	3	111.369	0.978	0.726	0.252	8.066	1.199	5.696	6.832	2.259	2.715	6.847	4.548	4.969	0.047	0.056	6.462	0.519	7.462	3.235	75.778	0.000	0.000	0.000	0.000	0.000	0.331	0.035	1.558	0.683	6.832	6.847
159	5.250	17.224	-5.250	-17.224	8.084	0.237	21.430	2.932	4	3	5	4	3	114.551	0.987	0.730	0.257	8.230	1.196	5.163	6.174	2.675	3.359	9.724	3.339	7.097	0.051	0.058	9.160	0.710	10.160	3.033	60.761	0.000	0.000	0.000	0.000	0.000	0.473	0.052	2.440	0.926	9.262	9.724
160	5.300	17.388	-5.300	-17.388	4.888	0.242	-0.350	4.951	3	3	4	4	2	111.369	0.996	0.734	0.262	8.394	1.193	4.683	5.584	2.120	2.401	5.303	6.218	3.892	-0.056	-0.070	5.674	0.469	6.674	3.405	90.128	0.000	0.000	0.000	0.000	0.000	0.260	0.000	1.173	0.558	5.584	5.303
161	5.350	17.552	-5.350	-17.552	4.565	0.193	8.790	4.228	3	3	4	3	2	111.369	1.005	0.738	0.267	8.558	1.189	4.373	5.201	1.978	2.182	4.824	5.421	3.560	0.002	0.002	4.814	0.411	5.814	3.403	90.012	0.000	0.000	0.000	0.000	0.000	0.237	0.001	1.068	0.520	5.201	4.824
162	5.400	17.716	-5.400	-17.716	4.252	0.129	9.860	3.034	3	3	4	3	3	111.369	1.015	0.742	0.272	8.722	1.186	4.073	4.831	1.785	1.912	4.363	3.985	3.237	0.008	0.011	4.315	0.378	5.315	3.365	86.619	0.000	0.000	0.000	0.000	0.000	0.216	0.004	0.972	0.483	4.831	4.363
163	5.450	17.880	-5.450	-17.880	3.633	0.140	10.060	3.854	3	3	4	3	2	111.369	1.024	0.746	0.277	8.886	1.183	3.480	4.117	1.738	1.747	3.498	5.365	2.610	0.010	0.014	3.449	0.318	4.449	3.516	100.000	0.000	0.000	0.000	0.000	0.000	0.174	0.005	0.811	0.412	4.117	3.498
164	5.500	18.044	-5.500	-18.044	3.650	0.156	11.240	4.274	3	3	3	3	2	111.369	1.033	0.750	0.282	9.051	1.180	3.497	4.125	1.789	1.786	3.490	5.959	2.618	0.019	0.026	3.399	0.316	4.399	3.542	100.000	0.000	0.000	0.000	0.000	0.000	0.175	0.009	0.810	0.413	4.125	3.490
165	5.550	18.208	-5.550	-18.208	5.661	0.254	13.010	4.487	3	3	4	4	2	111.369	1.042	0.754	0.288	9.215	1.177	5.423	6.381	2.298	2.596	6.127	5.498	4.620	0.021	0.026	5.969	0.503	6.969	3.323	82.966	0.000	0.000	0.000	0.000	0.000	0.308	0.015	1.370	0.638	6.381	6.127
166	5.600	18.372	-5.600	-18.372	11.190	0.266	14.470	3.377	4	4	6	5	4	114.551	1.051	0.759	0.293	9.379	1.173	5.360	6.289	3.334	4.159	13.373	2.623	10.140	0.014	0.016	13.163	1.029	14.163	2.860	49.533	0.000	29.696	-0.067	0.000	0.000	0.000	0.000	0.000	1.258	12.579	13.373
167	5.650	18.537	-5.650	-18.537	9.305	0.253	12.040	2.719	4	3	5	4	3	114.551	1.061	0.763	0.298	9.543	1.170	5.943	6.954	2.968	3.600	10.814	3.069	8.245	0.008	0.009	10.711	0.855	11.711	2.975	56.785	0.000	0.000	0.000	0.000	0.000	0.550	0.010	2.826	1.043	10.430	10.814
168	5.700	18.701	-5.700	-18.701	7.706	0.169	18.510	2.193	4	3	5	4	3	114.551	1.070	0.767	0.303	9.707	1.167	4.921	5.742	2.512	2.945	8.655	2.547	6.636	0.036	0.041	8.296	0.683	9.296	3.010	59.144	0.000	0.000	0.000	0.000	0.000	0.443	0.034	2.088	0.861	8.613	8.655
169	5.750	18.865	-5.750	-18.865	7.689	0.109	23.870	1.418	5	4	5	4	4	114.551	1.079	0.771	0.308	9.871	1.164	3.683	4.285	2.367	2.755	8.573	1.649	6.610	0.057	0.066	8.006	0.665	9.006	2.916	52.982	0.000	27.863	0.021	0.000	0.000	0.000	0.000	0.000	0.857	8.571	8.573
170	5.800	19.029	-5.800	-19.029	6.300	0.101	33.660	1.603	5	3	4	4	3	114.551	1.089	0.776	0.313	10.035	1.160	3.018	3.502	2.097	2.335	6.722	1.938	5.212	0.117	0.142	5.771	0.503	6.771	3.042	61.370	0.000	0.000	0.000	0.000	0.000	0.348	0.092	1.525	0.700	7.003	6.722
171	5.850	19.193	-5.850	-19.193	6.452	0.109	40.350	1.689	4	3	4	4	3	114.551	1.098	0.780	0.318	10.200	1.157	4.121	4.768	2.151	2.390	6.868	2.036	5.354	0.146	0.176	5.661	0.497	6.661	3.045	61.551	0.000	0.000	0.000	0.000	0.000	0.357	0.118	1.564	0.715	7.152	6.868
172	5.900	19.357	-5.900	-19.357	7.304	0.115	45.490	1.574	5	3	4	4	3	114.551	1.108	0.784	0.323	10.364	1.154	3.499	4.037	2.326	2.628	7.906	1.856	6.197	0.150	0.177	6.507	0.564	7.507	2.972	56.600	0.000	0.000	0.000	0.000	0.000	0.413	0.137	1.859	0.807	8.075	7.906
173	5.950	19.521	-5.950	-19.521	6.492	0.140	45.240	2.156	4	4	3	4	3	114.551	1.117	0.788	0.329	10.528	1.151	4.146	4.772	2.248	2.465	6.821	2.604	5.376	0.167	0.202	5.446	0.487	6.446	3.102	65.649

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
225	8.550	28.051	-8.550	-28.051	46.879	1.237	119.970	2.639	6	4	7	6	4	114.551	1.615	1.020	0.595	19.063	1.012	17.964	18.175	11.334	11.467	44.386	2.733	45.265	0.067	0.070	41.297	4.132	42.297	2.456	28.737	44.664	35.831	-0.209	3.145	147.487	0.000	0.000	0.000	4.544	45.437	45.437
226	8.600	28.215	-8.600	-28.215	51.733	1.150	46.920	2.223	6	5	8	6	5	114.551	1.624	1.024	0.600	19.227	1.010	19.824	20.015	12.047	12.163	48.932	2.295	50.109	0.017	0.017	48.087	4.816	49.087	2.374	25.350	47.428	36.292	-0.202	2.996	155.054	0.000	0.000	0.000	5.004	50.036	50.036
227	8.650	28.379	-8.650	-28.379	46.203	1.652	183.140	3.576	5	4	6	5	4	114.551	1.634	1.029	0.605	19.391	1.008	22.131	22.298	11.699	11.787	43.342	3.707	44.570	0.111	0.115	38.371	3.879	39.371	2.553	33.087	44.128	35.742	-0.258	3.176	146.822	0.000	0.000	0.000	4.460	44.595	44.595
228	8.700	28.543	-8.700	-28.543	53.594	2.167	377.110	4.043	5	4	5	5	3	114.551	1.643	1.033	0.610	19.555	1.005	25.672	25.811	13.517	13.591	50.311	4.171	51.952	0.208	0.215	39.502	4.007	40.502	2.544	32.710	48.322	36.441	-0.295	2.951	158.201	0.000	0.000	0.000	5.162	51.622	51.622
229	8.750	28.707	-8.750	-28.707	47.454	1.696	66.390	3.574	5	4	7	6	4	114.551	1.653	1.037	0.615	19.720	1.003	22.731	22.807	11.973	12.014	44.173	3.703	45.802	0.031	0.032	42.768	4.348	43.768	2.545	32.747	44.776	35.850	-0.273	3.143	149.200	0.000	0.000	0.000	4.561	45.614	45.614
230	8.800	28.871	-8.800	-28.871	41.064	1.532	55.110	3.731	5	4	7	6	4	114.551	1.662	1.042	0.620	19.884	1.001	19.670	19.695	10.742	10.334	37.845	3.888	39.403	0.027	0.028	36.788	3.769	37.788	2.618	36.251	40.571	35.149	-0.264	3.378	138.789	0.000	0.000	0.000	3.939	39.390	37.845
231	8.850	29.035	-8.850	-29.035	37.182	1.343	146.070	3.612	5	4	6	5	3	114.551	1.671	1.046	0.626	20.048	0.999	17.810	17.797	9.856	9.398	33.968	3.782	35.511	0.106	0.111	30.205	3.125	31.205	2.644	37.551	37.665	34.665	-0.228	3.543	131.797	0.000	0.000	0.000	3.559	35.593	33.968
232	8.900	29.199	-8.900	-29.199	52.249	1.350	110.370	2.169	7	5	7	6	5	117.733	1.681	1.050	0.631	20.212	0.997	19.878	19.821	14.091	14.050	57.693	2.229	60.569	0.045	0.046	55.012	5.633	56.012	2.310	22.880	52.376	37.117	-0.213	2.750	171.230	0.000	0.000	0.000	5.946	59.464	59.464
233	8.950	29.363	-8.950	-29.363	62.913	1.744	2.070	2.772	6	5	8	6	4	114.551	1.691	1.055	0.636	20.376	0.995	24.108	23.989	14.697	14.624	58.073	2.849	61.223	-0.009	-0.009	58.614	6.021	59.614	2.381	25.628	52.620	37.157	-0.259	2.739	172.378	0.000	0.000	0.000	5.997	59.972	59.972
234	9.000	29.527	-9.000	-29.527	52.229	2.413	15.870	4.620	4	4	8	6	3	114.551	1.700	1.059	0.641	20.540	0.993	33.357	33.125	13.610	12.985	47.736	4.775	50.530	-0.003	-0.003	47.874	4.956	48.874	2.610	35.870	47.228	36.259	-0.382	3.015	157.518	0.000	0.000	0.000	4.969	49.687	47.736
235	9.050	29.691	-9.050	-29.691	45.689	2.793	19.010	6.113	3	3	8	6	8	111.369	1.709	1.063	0.646	20.704	0.991	43.770	43.380	12.758	12.063	41.387	6.351	43.980	-0.001	-0.001	41.436	4.320	42.436	2.743	42.799	0.000	0.000	0.000	0.000	0.000	2.933	0.000	10.000	4.338	43.380	41.387
236	9.100	29.855	-9.100	-29.855	42.403	2.638	0.560	6.221	3	3	8	6	8	111.369	1.718	1.067	0.651	20.869	0.989	40.623	40.185	12.039	11.304	38.143	6.484	40.686	-0.015	-0.016	38.736	4.061	39.736	2.774	44.510	0.000	0.000	0.000	0.000	0.000	2.714	0.000	10.000	4.019	40.185	38.143
237	9.150	30.019	-9.150	-30.019	39.474	1.596	-2.600	4.043	5	4	8	6	3	114.551	1.728	1.071	0.656	21.033	0.987	18.908	18.668	10.580	9.862	35.250	4.228	37.747	-0.019	-0.020	35.939	3.789	36.939	2.666	38.653	39.036	34.893	-0.285	3.472	137.129	0.000	0.000	0.000	3.734	37.336	35.250
238	9.200	30.183	-9.200	-30.183	26.071	0.964	-6.240	3.698	5	4	7	5	3	114.551	1.737	1.076	0.661	21.197	0.985	12.488	12.305	7.464	6.764	22.635	3.961	24.335	-0.033	-0.035	23.431	2.516	24.431	2.789	45.364	0.000	32.902	-0.201	0.000	0.000	2.461	24.610	22.635
239	9.250	30.347	-9.250	-30.347	19.329	0.590	86.390	3.052	5	3	5	4	3	114.551	1.746	1.080	0.667	21.361	0.983	9.259	9.105	5.740	5.050	16.291	3.355	17.584	0.105	0.115	14.410	1.593	15.410	2.854	49.189	0.000	0.000	0.000	0.000	0.000	1.173	0.254	5.160	1.821	18.210	16.291
240	9.300	30.511	-9.300	-30.511	16.702	0.662	114.070	3.964	4	3	5	4	3	114.551	1.756	1.084	0.672	21.525	0.981	10.667	10.469	5.364	4.624	13.793	4.429	14.947	0.173	0.193	11.127	1.259	12.127	2.986	57.517	0.000	0.000	0.000	0.000	0.997	0.361	4.018	1.570	15.704	13.793
241	9.350	30.675	-9.350	-30.675	22.039	1.044	121.610	4.737	3	3	5	4	3	111.369	1.765	1.088	0.677	21.689	0.980	21.114	20.683	6.831	6.031	18.639	5.149	20.275	0.142	0.154	15.771	1.748	16.771	2.927	53.727	0.000	0.000	0.000	0.000	0.000	1.352	0.390	6.348	2.068	20.683	18.639
242	9.400	30.840	-9.400	-30.840	25.645	1.419	15.290	5.533	3	3	7	5	3	111.369	1.774	1.092	0.682	21.853	0.978	24.568	24.023	7.905	7.035	21.865	5.944	23.872	-0.008	-0.009	22.052	2.411	23.052	2.918	53.125	0.000	0.000	0.000	0.000	0.000	1.592	0.000	8.150	2.402	24.023	21.865
243	9.450	31.004	-9.450	-31.004	23.135	1.363	-10.490	5.892	3	3	7	5	3	111.369	1.783	1.096	0.687	22.018	0.976	22.163	21.631	7.384	6.492	19.485	6.384	21.352	-0.044	-0.048	20.410	2.248	21.410	2.976	56.860	0.000	0.000	0.000	0.000	0.000	1.424	0.000	6.802	2.163	21.631	19.485
244	9.500	31.168	-9.500	-31.168	17.148	0.697	-6.730	4.065	4	3	6	4	3	114.551	1.793	1.100	0.692	22.182	0.974	10.952	10.669	5.516	4.687	13.961	4.539	15.356	-0.053	-0.059	14.781	1.663	15.781	2.988	57.690	0.000	0.000	0.000	0.000	0.000	1.024	0.000	4.090	1.600	16.003	13.961
245	9.550	31.332	-9.550	-31.332	12.575	0.307	26.380	2.441	5	3	6	4	3	114.551	1.802	1.105	0.697	22.346	0.972	6.023	5.856	4.057	3.286	9.756	2.850	10.773	0.010	0.012	9.642	1.126	10.642	2.993	58.023	0.000	0.000	0.000	0.000	0.000	0.719	0.016	2.451	1.171	11.712	9.756
246	9.600	31.496	-9.600	-31.496	14.781	0.273	139.500	1.847	5	4	4	3	3	114.551	1.811	1.109	0.702	22.510	0.970	7.080	6.870	4.391	3.628	11.701	2.105	12.970	0.247	0.282	8.406	0.999	9.406	2.855	49.227	0.000	30.118	0.001	0.000	0.000	0.000	0.000	1.374	13.741	11.701
247	9.650	31.660	-9.650	-31.660	20.592	0.436	154.040	2.117	6	4	5	4	4	114.551	1.821	1.113	0.708	22.674	0.969	7.891	7.642	5.761	4.927	16.869	2.323	18.772	0.199	0.218	13.184	1.512	14.184	2.747	43.001	0.000	31.693	-0.057	0.000	0.000	0.000	0.000	1.911	19.106	16.869
248	9.700	31.824	-9.700	-31.824	27.331	0.457	53.030	1.672	6	4	7	5	4	114.551	1.830	1.118	0.713	22.838	0.967	10.473	10.124	6.872	6.643	22.829	1.792	25.502	0.034	0.037	21.985	2.460	22.985	2.538	32.416	0.000	33.036	-0.090	0.000	0.000	0.000	0.000	2.531	25.311	25.311
249	9.750	31.988	-9.750	-31.988	35.207	0.433	-2.100	1.230	7	5	7	5	5	117.733	1.840	1.122	0.718	23.002	0.965	11.243	10.847	8.179	7.891	29.754	1.298	33.368	-0.022	-0.023	30.452	3.379	31.452	2.368	25.142	35.095	34.237	-0.096	3.708	130.585	0.000	0.000	0.000	3.254	32.540	32.540
250	9.800	32.152	-9.800	-32.152	36.592	0.492	0.270	1.345	7	5	7	5	5	117.733	1.849	1.126	0.723	23.167	0.963	11.685	11.251	8.534	8.217	30.855	1.416	34.743	-0.020	-0.021	31.490	3.505	32.490	2.377	25.483	36.143	34.411	-0.107	3.650	133.614	0.000	0.000	0.000	3.375	33.752	33.752
251	9.850	32.316	-9.850	-32.316	28.049	0.335	-4.940	1.194	7	5	7	5	5	117.733	1.859	1.131	0.728	23.331	0.961	8.957	8.607	6.760	6.495	23.167	1.279	26.191	-0.031	-0.034	23.947	2.702	24.947	2.449	28.443	0.000	33.132	-0.071	0.000	0.000	0.000	0.000	2.582	25.820	25.820
252	9.900	32.480	-9.900	-32.480	15.737	0.254	25.110	1.614	6	4	6	5	4	114.551	1.869	1.135	0.733	23.495	0.959	6.030	5.783	4.549	3.688	12.220	1.831	13.869	0.003	0.004	12.175	1.432	13.175	2.807	46.376	0.000	30.361	-0.030	0.000	0.000	0.000	0.000	1.446	14.458	12.220
253	9.950	32.644	-9.950	-32.644	13.823	0.273	93.420	1.975	5	3	5	4	3	114.551	1.878	1.140	0.738	23.659	0.957	6.621	6.338	4.251	3.366	10.486	2.285	11.946	0.158	0.182	8.574	1.045	9.574	2.914	52.888	0.000	0.000	0.000	0.000	0.000	0.797	0.272	2.707	1.268	12.676	10.486
254	10.000	32.808	-10.000	-32.808	17.964	1.053	159.190	5.862	3	3	4	4	3	111.369	1.887	1.144	0.743	23.823	0.955	17.209	16.443	6.161	5.034	14.061	6.550	16.077	0.235	0.263	10.366	1.245	11.366	3.088	64.634	0.000	0.000	0.000	0.000	0.000	1.072	0.528	4.134	1.644	16.443	14.061
255	10.050	32.972	-10.050	-32.972	44.892	1.605	-2.950	3.575	5	4	8	6	4	114.551	1.897	1.148	0.749	23.987	0.954	21.503	20.509	11.690	10.185	37.469	3.733	42.996	-0.019	-0.020	38.201	4.309	39.201	2.609	35.804	41.731	35.343	-0.259	3.340	149.978	0.000	0.000	0.000	4.102	41.018	37.469
256	10.100	33.136	-10.100	-33.136	35.186	2.313	-11.860	6.574	3	3	7	5	3	111.369	1.906	1.152	0.754	24.151	0.952	33.708	32.092	10.599	9.087	28.899	6.950	33.281	-0.032	-0.034	29.874	3.406	30.874	2.879	50.694	0.000	0.000	0.000	0.000	0.000	2.220	0.000	10.000	3.209	32.092	28.899
257	10.150	33.300	-10.150	-33.300	26.465	2.097	-16.830	7.924	3	3	7	5	8	111.369	1.915	1.156	0.759	24.315	0.950	25.353	24.096	8.776	7.353	21.244	8.541	24.551	-0.049	-0.052	22.355	2.586	23.355	3.037	60.980	0.000	0.000	0.000	0.000	0.000	1.637	0.000	7.788	2.410	24.096	21.244
258	10.200	33.464	-10.200	-33.464	32.249	1.402	31.940	4.347	4	3	7	5	3	114.551	1.924	1.160	0.764	24.480	0.949	20.597	19.540	9.221	7.804	26.147	4.623	30.326	0.007	0.008	25.946	2.994	26.946	2.787	45.234	0.000	0.000	0.000	0.000	0.000	2.023	0.029	10.000	2.931	29.310	26.147
259	10.250	33.628	-10.250	-33.628	70.919	0.814	-9.710	1.148	8	5	8	6	5	120.915	1.934	1.165	0.769	24.644	0.947	16.985	16.082	14.735	13.952	59.249	1.180	68.986	-0.015	-0.016	60.170	6.823	61.170	2.105	15.952	54.630	37.492	-0.154	2.669	189.342	0.000	0.000	0.000	6.433	64.329	64.329
260	10.300	33.792	-10.300	-33.792	88.984	0.788	0.630	0.886	8	6	9	6	5	120.915	1.944	1.170	0.774	24.808	0.945	21.312	20.137	17.457	16.495	74.449	0.905	87.041	-0.008	-0.009	75.094	8.523	76.094	1.957	11.819	61.075	38.567	-0.151	2.410	214.533	0.000	0.000	0.000	8.055	80.549	80.549
261	10.350	33.956	-10.350	-33.956	98.790	1.061	16.050	1.074	8	6	9	6	5	120.915	1.954	1.174	0.779	24.972	0.943	23.660	22.311	19.502	18.389	82.490	1.096	96.837	-0.003	-0.003	82.726	9.416	83.726	1.974	12.247	64.013	39.056	-0.178	2.315	228.804	0.000	0.000	0.000	8.924	89.243	89.243
262	10.400	34.120	-10.400	-34.120	107.141	1.325	32.160	1.237	8	6	9	6	5	120.915	1.964	1.179	0.784	25.136	0.941	25.660	24.147	21.259	20.005	89.230	1.260	105.178	0.002	0.002	89.043	10.168	90.043	1.987	12.603	66.281	39.434	-0.199	2.251	241.276	0.000	0.000	0.000	9.659	96.590	96.590
263	10.450	34.284	-10.450	-34.284	114.981	1.870	72.180	1.626	8	5	9	6	5	120.915	1.974	1.184	0.790	25.300	0.939	27.538	25.862	23.344	21.923	95.484	1.655	113.008	0.013	0.013	94.247	10.799	95.247	2.046	14.238	68.247	39.762	-0.234	2.201	253.152	0.000	0.000	0.000	10.345	103.447	103.447
264	10.500	34.448	-10.500	-34.448	98.489	2.611	225.650	2.651	7	5	8	6	4	117.733	1.983	1.189	0.795	25.464	0.937	31.451	29.478	21.704	20.343	81.221	2.706	96.506	0.063	0.065	75.962	8.760	76.962	2.247	20.620	63.753	39.013	-0.281	2.326	229.163	0.000	0.000	0.000	8.844	88.435	88.435
265	10.550	34.612	-10.550	-34.612	96.307	3.062	39.620	3.179	6	5	9	6	4	114.551	1.993	1.193	0.800	25.629	0.936	36.905	34.527	21.834	20.427	79.084	3.247	94.315	0.005	0.005	78.717	9.108	79.717	2.313	23.012	63.058	38.897	-0.324	2.348	226.263	0.000	0.000	0.000	8.632	86.317	86.317
266	10.600	34.776	-10.600	-34.776	97.116	2.132	-8.680	2.195	7	5	9	6	5	117.733	2.002	1.197	0.805	25.793	0.934	31.012	28.960	20.921	19.537	79.460	2.242	95.114	-0.011	-0.011	80.359	9.330	81.359	2.193	18.772	63.244	38.928	-0.257	2.343	227.672	0.000	0.000	0.000	8.688	86.881	86.881
267	10.650	34.941	-10.650	-34.941	87.885	1.833	-8.850	2.086	7	5	9	6	5	117.733	2.012	1.202	0.810	25.957	0.932	28.065	26.158	19.060	17.765	71.470	2.135	85.874	-0.012	-0.013	72.373	8.446	73.373	2.209	19.314	60.327	38.442	-0.238	2.443	214.800	0.000	0.000	0.000	7.847	78.474	78.474
268	10.700	35.105	-10.700	-35.105	90.618	1.240	-11.560	1.368	8	5	9	6	5	120.915	2.022	1.207	0.815	26.121	0.930	21.703	20.190	18.611	17.313	73.451	1.400	88.597	-0.013	-0.013	74.426	8.716	75.426	2.076	15.084	61.150	38.579	-0.191	2.415	218.911	0.000	0.000	0.000	8.076	80.758	80.758
269	10.750	35.269	-10.750	-35.269	102.712	0.766	-6.090	0.746	8	6	9	6	6	120.915	2.032	1.211	0.820	26.285	0.928	24.600	22.839	19.494	18.099	83.139	0.761	100.681	-0.010	-0.010	83.973	9.858	84.973	1.868	9.644	64.684	39.168	-0.147	2.302	236.571	0.000	0.000	0.000	9.135	91.355	91.355
270	10.800	35.433	-10.800	-35.433	102.029	0.742	-4.990	0.727	8	6	9	6	6	120.915	2.042	1.216	0.825	26.449	0.927	24.436	22.642	19.341	17.921	82.241	0.742	99.988	-0.010	-0.010	83.047	9.789	84.047	1.865	9.567	64.436	39.127	-0.144	2.311	235.840	0.000	0.000	0.000	9.057	90.568	90.568
271	10.850	35.597	-10.850	-35.597	85.388	0.936	4.530	1.096	8	5	9	6	5	120.915	2.052	1.221	0.831	26.613	0.925	20.450	18.912	17.267	15.968	68.276	1.123	83.338	-0.008	-0.008	68.841	8.167	69.841	2.036	13.947	59.276	38.267	-0.163	2.486	212.371	0.000	0.000	0.000	7.565	75.648	75.648
272	10.900	35.761	-10.900	-35.761	76.224	1.237	26.300	1.623	7	5	8	6	5	117.733	2.061	1.226	0.836	26.778	0.923	24.341	22.467	16.363	15.103	60.529	1.668	74.164	-0.000	-0.000	60.541	7.224	61.541	2.185	18.492	55.967	37.715	-0.189	2.622	199.958	0.000	0.000	0.000	6.740	67.400	67.400
273	10.950	35.925	-10.950	-35.925	74.032	1.434	34.010	1.937	7	5	8	6	5	117.733	2.071	1.230	0.841	26.942	0.921	23.641	21.780	16.309	15.025	58.516	1.993	71.962	0.003	0.003	58.336	6.991	59.336	2.247	20.593	55.078	37.567	-0.205	2.662	197.191	0.000	0.000	0.000	6.534	65.341	65.341
274	11.000	36.089	-11.000	-36.089	75.733	1.479	11.750	1.953	7	5	8	6	5	117.733	2.081	1.235	0.846	27.106	0.920	24.184	22.240	16.652	15.314	59.671	2.008	73.653	-0.006	-0.007	60.059	7.220	61.059	2.242	20.438	55.676	37.667	-0.210	2.637	199.780	0.000	0.000	0.000	6.672	66.720	66.720
275	11.050	36.253	-11.050	-36.253	79.126	2.094	5.830	2.646	6	5	8	6	4	114.551	2.090	1.239	0.851	27.270	0.918	30.321	27.834	17.997	16.521	62.190	2.718	77.037	-0.008	-0.009	62.730	7.563	63.730	2.321	23.294	56.881	37.868	-0.259	2.586	204.697	0.000	0.000	0.000	6.958	69.585	69.585
276	11.100	36.417	-11.100	-36.417	82.841	2.872	48.230	3.467	6	4	8	6	4	114.551	2.100	1.244	0.856	27.434	0.916	31.745	29.091	19.455	17.828	64.957	3.557	80.742	0.008	0.008	64.434	7.792	65.434	2.392	26.101	58.147	38.079	-0.321	2.535	210.073	0.000	0.000	0.000	7.273	72.726	72.726
277	11.150	36.581	-11.150	-36.581	82.424	3.339	175.250	4.051	5	4	8	6	4	114.551	2.109	1.248	0.861	27.598	0.915	39.481	36.118	19.828	18.139	64.393	4.157	80.316	0.056	0.057	60.697	7.372	61.697	2.445	28.279	57.953	38.046	-0.362	2.543	209.731	0.000	0.000	0.000	7.224	72.236	72.236
278	11.200	36.745	-11.200	-36.745	67.884	3.716	87.080	5.474	11	4	8	6	8	130.461	2.119	1.253	0.866	27.762	0.913	65.033	59.376	17.923	14.474	52.519	5.650	65.765	0.027	0.028	51.040	6.243	52.040	2.636	37.161	52.334	37.110	-0.512	2.796	189.878	0.000	0.000	0.000	5.938	59.376	52.519
279	11.250	36.909	-11.250	-36.909	44.936	3.729	-7.110	8.299	0	3	8	5	8	118.624	2.129	1.258	0.871	27.927	0.911	43.048	39.224	13.720	10.851	34.047	8.711	42.807	-0.024	-0.026	34.916	4.326	35.916	2.902	52.121	0.000	0.000	0.000	0.000	0.000	2.855	0.000	10.000	3.922	39.224	34.047
280	11.300	37.073	-11.300	-37.073	42.637	3.947	-8.500	9.257	0	3	8	5	8	118.624	2.139	1.262	0.877	28.091	0.909	40.846	37.150	13.441	10.561	32.093	9.746	40.499	-0.027	-0.028	32.998	4.110	33.998	2.955	55.532	0.000	0.000	0.000	0.000	0.000	2.701	0.000	10.000	3.715	37.150	32.093
281	11.350	37.237	-11.350	-37.237	150.493	5.465	42.120	3.631	12	8	9	6	8	120.915	2.149	1.267	0.882	28.255	0.908	72.086	65.440	0.000	0.000	117.119	3.684	148.345	0.003	0.003	116.777	14.291	117.777	2.241	0.000	74.989	40.886	-0.416	2.059	309.985	0.000	0.000	0.000	13.088	130.881	130.881
282	11.400	37.401	-11.400	-37.401	245.627	7.741	190.100	3.152	12	8	9	7	8	120.915	2.159	1.272	0.887	28.419	0.906	117.655	106.607	0.000	0.000	191.495	3.179	243.469	0.021	0.021	187.525	22.963	188.525	2.066	0.000	88.977	43.217	-0.432	0.000	0.000	0.000	0.000	21.321	213.214	213.214
283	11.450	37.565	-11.450	-37.565	338.207	4.615	188.520	1.365	9	6	10	7	8	124.097	2.169	1.277	0.892	28.583	0.904	64.800	58.602	60.217	54.457	263.283	1.373	336.039	0.015	0.015	259.372	31.836	260.372	1.688	5.897	0.000	44.736	-0.313	0.000	0.000	0.000	0.000	0.000	29.301	293.010	293.010
284	11.500	37.729	-11.500	-37.729	346.450	8.644	442.130	2.495	12	8	9	7	8	120.915	2.179	1.282	0.897	28.747	0.903	165.950	149.787	0.000	0.000	268.697	2.511	344.272	0.037	0.037	258.626	31.868	259.626	1.900	0.000	0.000	44.842	-0.411	0.000	0.000	0.000	0.000	0.000	29.957	299.574	299.574
285	11.550	37.893	-11.550	-37.893	260.785	13.706	1545.050	5.256	11	9	0	0	8	130.461	2.189	1.287	0.902	28.911	0.901	249.832	225.045	0.000	0.000	201.015	5.300	258.597	0.181	0.183	164.228	20.363	165.228	2.243	0.000	90.525	43.475	-0.699	0.000	0.000	0.000	0.000	0.000	22.504	225.045

APPENDIX D—LABORATORY REPORTS: PROBE GROUNDWATER SAMPLES

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-11-25	Vinyl chloride	7	ug/L	8/27/2012	12082704-01
DR-CPT-11-25	cis-1,2-Dichloroethene	34	ug/L	8/27/2012	12082704-01
DR-CPT-11-25	Trichloroethene	54	ug/L	8/27/2012	12082704-01
DR-CPT-11-30	Vinyl chloride	70	ug/L	8/27/2012	12082704-02
DR-CPT-11-30	cis-1,2-Dichloroethene	270	ug/L	8/27/2012	12082704-02
DR-CPT-11-30	1,2-Dichloroethane	56	ug/L	8/27/2012	12082704-02
DR-CPT-11-30	Trichloroethene	3400	ug/L	8/27/2012	12082704-02
DR-CPT-11-35	Vinyl chloride	130	ug/L	8/27/2012	12082704-03
DR-CPT-11-35	cis-1,2-Dichloroethene	950	ug/L	8/27/2012	12082704-03
DR-CPT-11-35	1,1,1-Trichloroethane	91	ug/L	8/27/2012	12082704-03
DR-CPT-11-35	1,2-Dichloroethane	160	ug/L	8/27/2012	12082704-03
DR-CPT-11-35	Trichloroethene	7200	ug/L	8/27/2012	12082704-03
DR-CPT-11-40	Vinyl chloride	55	ug/L	8/27/2012	12082704-04
DR-CPT-11-40	cis-1,2-Dichloroethene	190	ug/L	8/27/2012	12082704-04
DR-CPT-11-40	Trichloroethene	1600	ug/L	8/27/2012	12082704-04
DR-CPT-11-45	Vinyl chloride	38	ug/L	8/27/2012	12082704-05
DR-CPT-11-45	cis-1,2-Dichloroethene	110	ug/L	8/27/2012	12082704-05
DR-CPT-11-45	1,2-Dichloroethane	7	ug/L	8/27/2012	12082704-05
DR-CPT-11-45	Trichloroethene	360	ug/L	8/27/2012	12082704-05
DR-CPT-11-50	Vinyl chloride	62	ug/L	8/27/2012	12082704-06
DR-CPT-11-50	cis-1,2-Dichloroethene	130	ug/L	8/27/2012	12082704-06
DR-CPT-11-50	Trichloroethene	150	ug/L	8/27/2012	12082704-06
DR-CPT-15-20	Vinyl chloride	5	ug/L	8/28/2012	12082807-01
DR-CPT-15-20	cis-1,2-Dichloroethene	28	ug/L	8/28/2012	12082807-01
DR-CPT-15-20	Trichloroethene	10	ug/L	8/28/2012	12082807-01
DR-CPT-15-20	Toluene	2	ug/L	8/28/2012	12082807-01
DR-CPT-15-20	Chlorobenzene	2	ug/L	8/28/2012	12082807-01
DR-CPT-15-25	Vinyl chloride	22	ug/L	8/28/2012	12082807-02
DR-CPT-15-25	trans-1,2-Dichloroethene	11	ug/L	8/28/2012	12082807-02
DR-CPT-15-25	cis-1,2-Dichloroethene	870	ug/L	8/28/2012	12082807-02
DR-CPT-15-25	Trichloroethene	900	ug/L	8/28/2012	12082807-02
DR-CPT-15-30	Vinyl chloride	150	ug/L	8/28/2012	12082807-03
DR-CPT-15-30	cis-1,2-Dichloroethene	1900	ug/L	8/28/2012	12082807-03
DR-CPT-15-30	Trichloroethene	2600	ug/L	8/28/2012	12082807-03
DR-CPT-15-35	Vinyl chloride	49	ug/L	8/28/2012	12082807-04
DR-CPT-15-35	trans-1,2-Dichloroethene	7	ug/L	8/28/2012	12082807-04
DR-CPT-15-35	cis-1,2-Dichloroethene	990	ug/L	8/28/2012	12082807-04
DR-CPT-15-35	Trichloroethene	1800	ug/L	8/28/2012	12082807-04
DR-CPT-15-40	Vinyl chloride	19	ug/L	8/28/2012	12082807-05
DR-CPT-15-40	trans-1,2-Dichloroethene	1	ug/L	8/28/2012	12082807-05
DR-CPT-15-40	cis-1,2-Dichloroethene	230	ug/L	8/28/2012	12082807-05
DR-CPT-15-40	Benzene	1	ug/L	8/28/2012	12082807-05
DR-CPT-15-40	1,2-Dichloroethane	2	ug/L	8/28/2012	12082807-05
DR-CPT-15-40	Trichloroethene	150	ug/L	8/28/2012	12082807-05
DR-CPT-15-40	Toluene	5	ug/L	8/28/2012	12082807-05
DR-CPT-15-40	o-Xylene	1	ug/L	8/28/2012	12082807-05
DR-CPT-15-45	Vinyl chloride	190	ug/L	8/28/2012	12082807-06
DR-CPT-15-45	trans-1,2-Dichloroethene	2	ug/L	8/28/2012	12082807-06
DR-CPT-15-45	cis-1,2-Dichloroethene	380	ug/L	8/28/2012	12082807-06
DR-CPT-15-45	Benzene	2	ug/L	8/28/2012	12082807-06
DR-CPT-15-45	1,2-Dichloroethane	3	ug/L	8/28/2012	12082807-06
DR-CPT-15-45	Trichloroethene	280	ug/L	8/28/2012	12082807-06
DR-CPT-15-45	Toluene	3	ug/L	8/28/2012	12082807-06

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CRT-Dup01-45	Vinyl chloride	180	ug/L	8/28/2012	12082807-07
DR-CRT-Dup01-45	trans-1,2-Dichloroethene	2	ug/L	8/28/2012	12082807-07
DR-CRT-Dup01-45	cis-1,2-Dichloroethene	370	ug/L	8/28/2012	12082807-07
DR-CRT-Dup01-45	Benzene	2	ug/L	8/28/2012	12082807-07
DR-CRT-Dup01-45	1,2-Dichloroethane	3	ug/L	8/28/2012	12082807-07
DR-CRT-Dup01-45	Trichloroethene	290	ug/L	8/28/2012	12082807-07
DR-CRT-Dup01-45	Toluene	2	ug/L	8/28/2012	12082807-07
DR-CPT-15-50	Vinyl chloride	880	ug/L	8/28/2012	12082807-08
DR-CPT-15-50	trans-1,2-Dichloroethene	7	ug/L	8/28/2012	12082807-08
DR-CPT-15-50	cis-1,2-Dichloroethene	1300	ug/L	8/28/2012	12082807-08
DR-CPT-15-50	Benzene	6	ug/L	8/28/2012	12082807-08
DR-CPT-15-50	1,2-Dichloroethane	10	ug/L	8/28/2012	12082807-08
DR-CPT-15-50	Trichloroethene	700	ug/L	8/28/2012	12082807-08
DR-CPT-15-55	Vinyl chloride	690	ug/L	8/28/2012	12082807-09
DR-CPT-15-55	trans-1,2-Dichloroethene	8	ug/L	8/28/2012	12082807-09
DR-CPT-15-55	cis-1,2-Dichloroethene	1200	ug/L	8/28/2012	12082807-09
DR-CPT-15-55	Chloroform	5	ug/L	8/28/2012	12082807-09
DR-CPT-15-55	1,2-Dichloroethane	10	ug/L	8/28/2012	12082807-09
DR-CPT-15-55	Trichloroethene	830	ug/L	8/28/2012	12082807-09
DR-CPT-12-25	Vinyl chloride	160	ug/L	8/28/2012	12082807-10
DR-CPT-12-25	1,1-Dichloroethane	22	ug/L	8/28/2012	12082807-10
DR-CPT-12-25	cis-1,2-Dichloroethene	930	ug/L	8/28/2012	12082807-10
DR-CPT-12-25	1,1,1-Trichloroethane	12	ug/L	8/28/2012	12082807-10
DR-CPT-12-25	1,2-Dichloroethane	20	ug/L	8/28/2012	12082807-10
DR-CPT-12-25	Trichloroethene	3400	ug/L	8/28/2012	12082807-10
DR-CPT-12-25	Tetrachloroethene	5	ug/L	8/28/2012	12082807-10
DR-CPT-12-30	Vinyl chloride	290	ug/L	8/28/2012	12082807-11
DR-CPT-12-30	1,1-Dichloroethane	220	ug/L	8/28/2012	12082807-11
DR-CPT-12-30	cis-1,2-Dichloroethene	1600	ug/L	8/28/2012	12082807-11
DR-CPT-12-30	1,1,1-Trichloroethane	120	ug/L	8/28/2012	12082807-11
DR-CPT-12-30	1,2-Dichloroethane	120	ug/L	8/28/2012	12082807-11
DR-CPT-12-30	Trichloroethene	8000	ug/L	8/28/2012	12082807-11
DR-CPT-12-35	Vinyl chloride	180	ug/L	8/29/2012	12082904-01
DR-CPT-12-35	1,1-Dichloroethane	130	ug/L	8/29/2012	12082904-01
DR-CPT-12-35	cis-1,2-Dichloroethene	1100	ug/L	8/29/2012	12082904-01
DR-CPT-12-35	1,1,1-Trichloroethane	51	ug/L	8/29/2012	12082904-01
DR-CPT-12-35	1,2-Dichloroethane	82	ug/L	8/29/2012	12082904-01
DR-CPT-12-35	Trichloroethene	3500	ug/L	8/29/2012	12082904-01
DR-CPT-12-40	Vinyl chloride	57	ug/L	8/29/2012	12082904-02
DR-CPT-12-40	1,1-Dichloroethane	110	ug/L	8/29/2012	12082904-02
DR-CPT-12-40	cis-1,2-Dichloroethene	410	ug/L	8/29/2012	12082904-02
DR-CPT-12-40	1,1,1-Trichloroethane	68	ug/L	8/29/2012	12082904-02
DR-CPT-12-40	1,2-Dichloroethane	66	ug/L	8/29/2012	12082904-02
DR-CPT-12-40	Trichloroethene	1600	ug/L	8/29/2012	12082904-02
DR-CPT-12-45	Vinyl chloride	42	ug/L	8/29/2012	12082904-03
DR-CPT-12-45	trans-1,2-Dichloroethene	5	ug/L	8/29/2012	12082904-03
DR-CPT-12-45	1,1-Dichloroethane	11	ug/L	8/29/2012	12082904-03
DR-CPT-12-45	cis-1,2-Dichloroethene	310	ug/L	8/29/2012	12082904-03
DR-CPT-12-45	Chloroform	1	ug/L	8/29/2012	12082904-03
DR-CPT-12-45	1,1,1-Trichloroethane	7	ug/L	8/29/2012	12082904-03
DR-CPT-12-45	Benzene	2	ug/L	8/29/2012	12082904-03
DR-CPT-12-45	1,2-Dichloroethane	20	ug/L	8/29/2012	12082904-03
DR-CPT-12-45	Trichloroethene	2000	ug/L	8/29/2012	12082904-03
DR-CPT-12-45	Tetrachloroethene	1	ug/L	8/29/2012	12082904-03

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-12-50	Vinyl chloride	46	ug/L	8/29/2012	12082904-04
DR-CPT-12-50	trans-1,2-Dichloroethene	3	ug/L	8/29/2012	12082904-04
DR-CPT-12-50	cis-1,2-Dichloroethene	160	ug/L	8/29/2012	12082904-04
DR-CPT-12-50	Benzene	1	ug/L	8/29/2012	12082904-04
DR-CPT-12-50	1,2-Dichloroethane	3	ug/L	8/29/2012	12082904-04
DR-CPT-12-50	Trichloroethene	180	ug/L	8/29/2012	12082904-04
DR-CPT-12-55	Vinyl chloride	200	ug/L	8/29/2012	12082904-05
DR-CPT-12-55	cis-1,2-Dichloroethene	1300	ug/L	8/29/2012	12082904-05
DR-CPT-12-55	Trichloroethene	1500	ug/L	8/29/2012	12082904-05
DR-CPT-12-60	Vinyl chloride	65	ug/L	8/29/2012	12082904-06
DR-CPT-12-60	trans-1,2-Dichloroethene	9	ug/L	8/29/2012	12082904-06
DR-CPT-12-60	1,1-Dichloroethane	3	ug/L	8/29/2012	12082904-06
DR-CPT-12-60	cis-1,2-Dichloroethene	340	ug/L	8/29/2012	12082904-06
DR-CPT-12-60	1,1,1-Trichloroethane	2	ug/L	8/29/2012	12082904-06
DR-CPT-12-60	Benzene	2	ug/L	8/29/2012	12082904-06
DR-CPT-12-60	1,2-Dichloroethane	6	ug/L	8/29/2012	12082904-06
DR-CPT-12-60	Trichloroethene	350	ug/L	8/29/2012	12082904-06
DR-CPT-12-60	Toluene	1	ug/L	8/29/2012	12082904-06
DR-CRT-13-25	Vinyl chloride	750	ug/L	8/29/2012	12082904-07
DR-CRT-13-25	trans-1,2-Dichloroethene	1700	ug/L	8/29/2012	12082904-07
DR-CRT-13-25	cis-1,2-Dichloroethene	560000	ug/L	8/29/2012	12082904-07
DR-CRT-13-25	1,2-Dichloroethane	97	ug/L	8/29/2012	12082904-07
DR-CRT-13-25	Trichloroethene	2400	ug/L	8/29/2012	12082904-07
DR-CRT-13-25	Toluene	250	ug/L	8/29/2012	12082904-07
DR-CPT-13-30	Vinyl chloride	1900	ug/L	8/29/2012	12082904-08
DR-CPT-13-30	trans-1,2-Dichloroethene	3700	ug/L	8/29/2012	12082904-08
DR-CPT-13-30	cis-1,2-Dichloroethene	190000	ug/L	8/29/2012	12082904-08
DR-CPT-13-30	1,2-Dichloroethane	310	ug/L	8/29/2012	12082904-08
DR-CPT-13-30	Trichloroethene	17000	ug/L	8/29/2012	12082904-08
DR-CPT-13-30	Toluene	190	ug/L	8/29/2012	12082904-08
DR-CPT-DUP02-40	Vinyl chloride	130	ug/L	8/30/2012	12083004-01
DR-CPT-DUP02-40	trans-1,2-Dichloroethene	70	ug/L	8/30/2012	12083004-01
DR-CPT-DUP02-40	cis-1,2-Dichloroethene	6400	ug/L	8/30/2012	12083004-01
DR-CPT-DUP02-40	Trichloroethene	10000	ug/L	8/30/2012	12083004-01
DR-CPT-DUP02-40	Toluene	130	ug/L	8/30/2012	12083004-01
DR-CPT-DUP03-30	Vinyl chloride	150	ug/L	8/30/2012	12083004-02
DR-CPT-DUP03-30	trans-1,2-Dichloroethene	15	ug/L	8/30/2012	12083004-02
DR-CPT-DUP03-30	cis-1,2-Dichloroethene	600	ug/L	8/30/2012	12083004-02
DR-CPT-DUP03-30	Trichloroethene	120	ug/L	8/30/2012	12083004-02
DR-CPT-13-35	cis-1,2-Dichloroethene	1400	ug/L	8/30/2012	12083004-03
DR-CPT-13-35	Trichloroethene	6100	ug/L	8/30/2012	12083004-03
DR-CPT-14-25	Vinyl chloride	1	ug/L	8/30/2012	12083004-04
DR-CPT-14-25	1,1-Dichloroethene	12	ug/L	8/30/2012	12083004-04
DR-CPT-14-25	trans-1,2-Dichloroethene	12	ug/L	8/30/2012	12083004-04
DR-CPT-14-25	cis-1,2-Dichloroethene	190	ug/L	8/30/2012	12083004-04
DR-CPT-14-25	Trichloroethene	180	ug/L	8/30/2012	12083004-04
DR-CPT-13-40	Vinyl chloride	120	ug/L	8/30/2012	12083004-05
DR-CPT-13-40	trans-1,2-Dichloroethene	71	ug/L	8/30/2012	12083004-05
DR-CPT-13-40	cis-1,2-Dichloroethene	7000	ug/L	8/30/2012	12083004-05
DR-CPT-13-40	Trichloroethene	9600	ug/L	8/30/2012	12083004-05
DR-CPT-13-40	Toluene	140	ug/L	8/30/2012	12083004-05
DR-CPT-14-30	Vinyl chloride	190	ug/L	8/30/2012	12083004-06
DR-CPT-14-30	trans-1,2-Dichloroethene	18	ug/L	8/30/2012	12083004-06
DR-CPT-14-30	cis-1,2-Dichloroethene	640	ug/L	8/30/2012	12083004-06

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-14-30	Trichloroethene	130	ug/L	8/30/2012	12083004-06
DR-CRT-13-45	Vinyl chloride	21	ug/L	8/30/2012	12083004-07
DR-CRT-13-45	trans-1,2-Dichloroethene	14	ug/L	8/30/2012	12083004-07
DR-CRT-13-45	cis-1,2-Dichloroethene	1000	ug/L	8/30/2012	12083004-07
DR-CRT-13-45	Trichloroethene	420	ug/L	8/30/2012	12083004-07
DR-CRT-13-45	Toluene	40	ug/L	8/30/2012	12083004-07
DR-CPT-14-35	Vinyl chloride	160	ug/L	8/30/2012	12083004-08
DR-CPT-14-35	trans-1,2-Dichloroethene	14	ug/L	8/30/2012	12083004-08
DR-CPT-14-35	cis-1,2-Dichloroethene	720	ug/L	8/30/2012	12083004-08
DR-CPT-14-35	Trichloroethene	160	ug/L	8/30/2012	12083004-08
DR-CPT-13-50	Vinyl chloride	16	ug/L	8/30/2012	12083004-09
DR-CPT-13-50	trans-1,2-Dichloroethene	12	ug/L	8/30/2012	12083004-09
DR-CPT-13-50	cis-1,2-Dichloroethene	620	ug/L	8/30/2012	12083004-09
DR-CPT-13-50	Trichloroethene	230	ug/L	8/30/2012	12083004-09
DR-CPT-13-50	Toluene	41	ug/L	8/30/2012	12083004-09
DR-CPT-14-40	Vinyl chloride	3	ug/L	8/30/2012	12083004-10
DR-CPT-14-40	trans-1,2-Dichloroethene	1	ug/L	8/30/2012	12083004-10
DR-CPT-14-40	cis-1,2-Dichloroethene	25	ug/L	8/30/2012	12083004-10
DR-CPT-14-40	Trichloroethene	24	ug/L	8/30/2012	12083004-10
DR-CPT-14-45	Vinyl chloride	7	ug/L	8/30/2012	12083004-11
DR-CPT-14-45	trans-1,2-Dichloroethene	2	ug/L	8/30/2012	12083004-11
DR-CPT-14-45	cis-1,2-Dichloroethene	30	ug/L	8/30/2012	12083004-11
DR-CPT-14-45	Trichloroethene	35	ug/L	8/30/2012	12083004-11
DR-CPT-13-55	Vinyl chloride	26	ug/L	8/30/2012	12083004-12
DR-CPT-13-55	trans-1,2-Dichloroethene	11	ug/L	8/30/2012	12083004-12
DR-CPT-13-55	cis-1,2-Dichloroethene	730	ug/L	8/30/2012	12083004-12
DR-CPT-13-55	Trichloroethene	190	ug/L	8/30/2012	12083004-12
DR-CPT-13-55	Toluene	53	ug/L	8/30/2012	12083004-12
DR-CPT-14-50	Vinyl chloride	4	ug/L	8/30/2012	12083004-13
DR-CPT-14-50	trans-1,2-Dichloroethene	2	ug/L	8/30/2012	12083004-13
DR-CPT-14-50	cis-1,2-Dichloroethene	36	ug/L	8/30/2012	12083004-13
DR-CPT-14-50	Trichloroethene	40	ug/L	8/30/2012	12083004-13
DR-CPT-13-60	Vinyl chloride	18	ug/L	8/30/2012	12083004-14
DR-CPT-13-60	1,1-Dichloroethene	11	ug/L	8/30/2012	12083004-14
DR-CPT-13-60	trans-1,2-Dichloroethene	11	ug/L	8/30/2012	12083004-14
DR-CPT-13-60	cis-1,2-Dichloroethene	440	ug/L	8/30/2012	12083004-14
DR-CPT-13-60	Trichloroethene	140	ug/L	8/30/2012	12083004-14
DR-CPT-13-60	Toluene	35	ug/L	8/30/2012	12083004-14
DR-CPT-14-55	Vinyl chloride	14	ug/L	8/30/2012	12083004-15
DR-CPT-14-55	trans-1,2-Dichloroethene	2	ug/L	8/30/2012	12083004-15
DR-CPT-14-55	cis-1,2-Dichloroethene	54	ug/L	8/30/2012	12083004-15
DR-CPT-14-55	1,2-Dichloroethane	1	ug/L	8/30/2012	12083004-15
DR-CPT-14-55	Trichloroethene	62	ug/L	8/30/2012	12083004-15
DR-CPT-14-60	Vinyl chloride	13	ug/L	8/30/2012	12083004-16
DR-CPT-14-60	cis-1,2-Dichloroethene	35	ug/L	8/30/2012	12083004-16
DR-CPT-14-60	1,2-Dichloroethane	1	ug/L	8/30/2012	12083004-16
DR-CPT-14-60	Trichloroethene	46	ug/L	8/30/2012	12083004-16
DR-CPT-16-20	cis-1,2-Dichloroethene	18	ug/L	8/30/2012	12083004-17
DR-CPT-16-20	Benzene	37	ug/L	8/30/2012	12083004-17
DR-CPT-16-20	Toluene	7	ug/L	8/30/2012	12083004-17
DR-CPT-16-20	Chlorobenzene	7	ug/L	8/30/2012	12083004-17
DR-CPT-16-20	Ethylbenzene	21	ug/L	8/30/2012	12083004-17
DR-CPT-16-20	m&p-Xylene	220	ug/L	8/30/2012	12083004-17
DR-CPT-16-20	o-Xylene	26	ug/L	8/30/2012	12083004-17

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-16-20	1,4-Dichlorobenzene	9	ug/L	8/30/2012	12083004-17
DR-CPT-16-25	Vinyl chloride	23	ug/L	8/30/2012	12083004-18
DR-CPT-16-25	cis-1,2-Dichloroethene	160	ug/L	8/30/2012	12083004-18
DR-CPT-16-25	Benzene	22	ug/L	8/30/2012	12083004-18
DR-CPT-16-25	Toluene	140	ug/L	8/30/2012	12083004-18
DR-CPT-16-25	Ethylbenzene	120	ug/L	8/30/2012	12083004-18
DR-CPT-16-25	m&p-Xylene	3900	ug/L	8/30/2012	12083004-18
DR-CPT-16-25	o-Xylene	600	ug/L	8/30/2012	12083004-18
DR-CPT-16-25	Isopropylbenzene	6	ug/L	8/30/2012	12083004-18
DR-CPT-16-30	Vinyl chloride	2100	ug/L	8/30/2012	12083004-19
DR-CPT-16-30	trans-1,2-Dichloroethene	92	ug/L	8/30/2012	12083004-19
DR-CPT-16-30	cis-1,2-Dichloroethene	9100	ug/L	8/30/2012	12083004-19
DR-CPT-16-30	Trichloroethene	1900	ug/L	8/30/2012	12083004-19
DR-CPT-16-30	Toluene	290	ug/L	8/30/2012	12083004-19
DR-CPT-16-30	Ethylbenzene	250	ug/L	8/30/2012	12083004-19
DR-CPT-16-30	m&p-Xylene	4800	ug/L	8/30/2012	12083004-19
DR-CPT-16-30	o-Xylene	1000	ug/L	8/30/2012	12083004-19
DR-CPT-16-35	Vinyl chloride	16	ug/L	8/30/2012	12083104-01
DR-CPT-16-35	cis-1,2-Dichloroethene	260	ug/L	8/30/2012	12083104-01
DR-CPT-16-35	Chloroform	9	ug/L	8/30/2012	12083104-01
DR-CPT-16-35	Trichloroethene	90	ug/L	8/30/2012	12083104-01
DR-CPT-16-35	Toluene	220	ug/L	8/30/2012	12083104-01
DR-CPT-16-35	Ethylbenzene	220	ug/L	8/30/2012	12083104-01
DR-CPT-16-35	m&p-Xylene	5900	ug/L	8/30/2012	12083104-01
DR-CPT-16-35	o-Xylene	1100	ug/L	8/30/2012	12083104-01
DR-CPT-16-35	Isopropylbenzene	10	ug/L	8/30/2012	12083104-01
DR-CPT-16-40	cis-1,2-Dichloroethene	620	ug/L	8/30/2012	12083104-02
DR-CPT-16-40	Toluene	640	ug/L	8/30/2012	12083104-02
DR-CPT-16-40	Ethylbenzene	570	ug/L	8/30/2012	12083104-02
DR-CPT-16-40	m&p-Xylene	9600	ug/L	8/30/2012	12083104-02
DR-CPT-16-40	o-Xylene	2500	ug/L	8/30/2012	12083104-02
DR-CPT-16-45	Vinyl chloride	240	ug/L	8/30/2012	12083104-03
DR-CPT-16-45	cis-1,2-Dichloroethene	8400	ug/L	8/30/2012	12083104-03
DR-CPT-16-45	Toluene	3800	ug/L	8/30/2012	12083104-03
DR-CPT-16-45	Ethylbenzene	2500	ug/L	8/30/2012	12083104-03
DR-CPT-16-45	m&p-Xylene	46000	ug/L	8/30/2012	12083104-03
DR-CPT-16-45	o-Xylene	10000	ug/L	8/30/2012	12083104-03
DR-CPT-16-45	Isopropylbenzene	75	ug/L	8/30/2012	12083104-03
DR-CPT-16-50	cis-1,2-Dichloroethene	610	ug/L	8/31/2012	12083104-04
DR-CPT-16-50	Toluene	590	ug/L	8/31/2012	12083104-04
DR-CPT-16-50	Ethylbenzene	460	ug/L	8/31/2012	12083104-04
DR-CPT-16-50	m&p-Xylene	6500	ug/L	8/31/2012	12083104-04
DR-CPT-16-50	o-Xylene	2200	ug/L	8/31/2012	12083104-04
DR-CPT-16-55	Vinyl chloride	160	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	trans-1,2-Dichloroethene	13	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	cis-1,2-Dichloroethene	850	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	Chloroform	370	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	Benzene	28	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	1,2-Dichloroethane	22	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	Trichloroethene	2900	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	Bromodichloromethane	33	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	Toluene	1000	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	1,1,2-Trichloroethane	12	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	Ethylbenzene	64	ug/L	8/31/2012	12083104-05

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-16-55	m&p-Xylene	1200	ug/L	8/31/2012	12083104-05
DR-CPT-16-55	o-Xylene	250	ug/L	8/31/2012	12083104-05
DR-CPT-09-20	Vinyl chloride	19000	ug/L	8/31/2012	12083104-06
DR-CPT-09-20	cis-1,2-Dichloroethene	3300	ug/L	8/31/2012	12083104-06
DR-CPT-09-20	Benzene	67	ug/L	8/31/2012	12083104-06
DR-CPT-09-20	Trichloroethene	160	ug/L	8/31/2012	12083104-06
DR-CPT-09-20	Toluene	1500	ug/L	8/31/2012	12083104-06
DR-CPT-09-20	Tetrachloroethene	200	ug/L	8/31/2012	12083104-06
DR-CPT-09-20	Ethylbenzene	69	ug/L	8/31/2012	12083104-06
DR-CPT-09-20	m&p-Xylene	170	ug/L	8/31/2012	12083104-06
DR-CPT-09-20	o-Xylene	77	ug/L	8/31/2012	12083104-06
DR-CPT-09-20	1,3-Dichlorobenzene	60	ug/L	8/31/2012	12083104-06
DR-CPT-09-20	1,4-Dichlorobenzene	150	ug/L	8/31/2012	12083104-06
DR-CPT-09-25	Vinyl chloride	110000	ug/L	8/31/2012	12083104-07
DR-CPT-09-25	cis-1,2-Dichloroethene	4400	ug/L	8/31/2012	12083104-07
DR-CPT-09-25	Benzene	330	ug/L	8/31/2012	12083104-07
DR-CPT-09-25	Toluene	15000	ug/L	8/31/2012	12083104-07
DR-CPT-09-25	Ethylbenzene	410	ug/L	8/31/2012	12083104-07
DR-CPT-09-25	m&p-Xylene	610	ug/L	8/31/2012	12083104-07
DR-CPT-09-25	o-Xylene	260	ug/L	8/31/2012	12083104-07
DR-CPT-09-25	1,3-Dichlorobenzene	61	ug/L	8/31/2012	12083104-07
DR-CPT-09-25	1,4-Dichlorobenzene	200	ug/L	8/31/2012	12083104-07
DR-CPT-09-30	Vinyl chloride	39000	ug/L	8/31/2012	12083104-08
DR-CPT-09-30	cis-1,2-Dichloroethene	2700	ug/L	8/31/2012	12083104-08
DR-CPT-09-30	Benzene	130	ug/L	8/31/2012	12083104-08
DR-CPT-09-30	Toluene	440	ug/L	8/31/2012	12083104-08
DR-CPT-09-30	Tetrachloroethene	67	ug/L	8/31/2012	12083104-08
DR-CPT-09-30	o-Xylene	53	ug/L	8/31/2012	12083104-08
DR-CPT-09-35	Vinyl chloride	1800	ug/L	9/4/2012	12090404-01
DR-CPT-09-35	cis-1,2-Dichloroethene	430	ug/L	9/4/2012	12090404-01
DR-CPT-09-35	Benzene	8	ug/L	9/4/2012	12090404-01
DR-CPT-09-35	1,2-Dichloroethane	7	ug/L	9/4/2012	12090404-01
DR-CPT-09-35	Trichloroethene	83	ug/L	9/4/2012	12090404-01
DR-CPT-09-35	Toluene	10	ug/L	9/4/2012	12090404-01
DR-CPT-19-20	Vinyl chloride	710	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	cis-1,2-Dichloroethene	58	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	Cyclohexane	39	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	Benzene	220	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	1,2-Dichloroethane	36	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	Toluene	770	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	1,1,2-Trichloroethane	11	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	Chlorobenzene	42	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	Ethylbenzene	510	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	m&p-Xylene	4300	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	o-Xylene	170	ug/L	9/4/2012	12090404-02
DR-CPT-19-20	Isopropylbenzene	6	ug/L	9/4/2012	12090404-02
DR-CPT-19-25	Vinyl chloride	26	ug/L	9/4/2012	12090404-03
DR-CPT-19-25	Cyclohexane	40	ug/L	9/4/2012	12090404-03
DR-CPT-19-25	Benzene	190	ug/L	9/4/2012	12090404-03
DR-CPT-19-25	1,2-Dichloroethane	46	ug/L	9/4/2012	12090404-03
DR-CPT-19-25	Methylcyclohexane	26	ug/L	9/4/2012	12090404-03
DR-CPT-19-25	Toluene	710	ug/L	9/4/2012	12090404-03
DR-CPT-19-25	1,1,2-Trichloroethane	18	ug/L	9/4/2012	12090404-03
DR-CPT-19-25	Chlorobenzene	16	ug/L	9/4/2012	12090404-03

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-19-25	Ethylbenzene	1000	ug/L	9/4/2012	12090404-03
DR-CPT-19-25	m&p-Xylene	5600	ug/L	9/4/2012	12090404-03
DR-CPT-19-25	o-Xylene	80	ug/L	9/4/2012	12090404-03
DR-CPT-19-25	Isopropylbenzene	9	ug/L	9/4/2012	12090404-03
DR-CPT-09-40	Vinyl chloride	180	ug/L	9/4/2012	12090404-04
DR-CPT-09-40	cis-1,2-Dichloroethene	60	ug/L	9/4/2012	12090404-04
DR-CPT-09-40	Trichloroethene	12	ug/L	9/4/2012	12090404-04
DR-CPT-09-40	Toluene	31	ug/L	9/4/2012	12090404-04
DR-CPT-09-40	m&p-Xylene	16	ug/L	9/4/2012	12090404-04
DR-CPT-19-30	Vinyl chloride	12	ug/L	9/4/2012	12090404-05
DR-CPT-19-30	Benzene	7	ug/L	9/4/2012	12090404-05
DR-CPT-19-30	Toluene	11	ug/L	9/4/2012	12090404-05
DR-CPT-19-30	Ethylbenzene	12	ug/L	9/4/2012	12090404-05
DR-CPT-19-30	m&p-Xylene	100	ug/L	9/4/2012	12090404-05
DR-CPT-09-45	Vinyl chloride	980	ug/L	9/4/2012	12090404-06
DR-CPT-09-45	trans-1,2-Dichloroethene	13	ug/L	9/4/2012	12090404-06
DR-CPT-09-45	cis-1,2-Dichloroethene	1600	ug/L	9/4/2012	12090404-06
DR-CPT-09-45	Benzene	6	ug/L	9/4/2012	12090404-06
DR-CPT-09-45	1,2-Dichloroethane	8	ug/L	9/4/2012	12090404-06
DR-CPT-09-45	Trichloroethene	720	ug/L	9/4/2012	12090404-06
DR-CPT-09-45	Toluene	57	ug/L	9/4/2012	12090404-06
DR-CPT-19-35	Vinyl chloride	44	ug/L	9/4/2012	12090404-07
DR-CPT-19-35	trans-1,2-Dichloroethene	1	ug/L	9/4/2012	12090404-07
DR-CPT-19-35	cis-1,2-Dichloroethene	77	ug/L	9/4/2012	12090404-07
DR-CPT-19-35	Benzene	11	ug/L	9/4/2012	12090404-07
DR-CPT-19-35	1,2-Dichloroethane	2	ug/L	9/4/2012	12090404-07
DR-CPT-19-35	Trichloroethene	9	ug/L	9/4/2012	12090404-07
DR-CPT-19-35	Toluene	3	ug/L	9/4/2012	12090404-07
DR-CPT-19-35	Ethylbenzene	1	ug/L	9/4/2012	12090404-07
DR-CPT-19-35	m&p-Xylene	10	ug/L	9/4/2012	12090404-07
DR-CPT-09-50	Vinyl chloride	2100	ug/L	9/4/2012	12090404-08
DR-CPT-09-50	trans-1,2-Dichloroethene	67	ug/L	9/4/2012	12090404-08
DR-CPT-09-50	cis-1,2-Dichloroethene	5900	ug/L	9/4/2012	12090404-08
DR-CPT-09-50	Trichloroethene	4200	ug/L	9/4/2012	12090404-08
DR-CPT-DUP04-50	Vinyl chloride	2000	ug/L	9/4/2012	12090404-09
DR-CPT-DUP04-50	trans-1,2-Dichloroethene	72	ug/L	9/4/2012	12090404-09
DR-CPT-DUP04-50	cis-1,2-Dichloroethene	5900	ug/L	9/4/2012	12090404-09
DR-CPT-DUP04-50	Trichloroethene	4500	ug/L	9/4/2012	12090404-09
DR-CPT-DUP04-50	Toluene	51	ug/L	9/4/2012	12090404-09
DR-CPT-09-55	Vinyl chloride	780	ug/L	9/4/2012	12090404-10
DR-CPT-09-55	trans-1,2-Dichloroethene	11	ug/L	9/4/2012	12090404-10
DR-CPT-09-55	cis-1,2-Dichloroethene	1100	ug/L	9/4/2012	12090404-10
DR-CPT-09-55	Benzene	15	ug/L	9/4/2012	12090404-10
DR-CPT-09-55	1,2-Dichloroethane	15	ug/L	9/4/2012	12090404-10
DR-CPT-09-55	Trichloroethene	440	ug/L	9/4/2012	12090404-10
DR-CPT-09-55	Toluene	82	ug/L	9/4/2012	12090404-10
DR-CPT-19-40	Vinyl chloride	1600	ug/L	9/4/2012	12090404-11
DR-CPT-19-40	cis-1,2-Dichloroethene	6100	ug/L	9/4/2012	12090404-11
DR-CPT-19-40	Chloroform	66	ug/L	9/4/2012	12090404-11
DR-CPT-19-40	Benzene	59	ug/L	9/4/2012	12090404-11
DR-CPT-19-40	Trichloroethene	920	ug/L	9/4/2012	12090404-11
DR-CPT-19-40	Toluene	110	ug/L	9/4/2012	12090404-11
DR-CPT-19-45	Vinyl chloride	310	ug/L	9/4/2012	12090404-12
DR-CPT-19-45	trans-1,2-Dichloroethene	11	ug/L	9/4/2012	12090404-12

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-19-45	cis-1,2-Dichloroethene	530	ug/L	9/4/2012	12090404-12
DR-CPT-19-45	Chloroform	29	ug/L	9/4/2012	12090404-12
DR-CPT-19-45	Benzene	9	ug/L	9/4/2012	12090404-12
DR-CPT-19-45	1,2-Dichloroethane	20	ug/L	9/4/2012	12090404-12
DR-CPT-19-45	Trichloroethene	560	ug/L	9/4/2012	12090404-12
DR-CPT-19-50	Vinyl chloride	91	ug/L	9/4/2012	12090404-14
DR-CPT-19-50	trans-1,2-Dichloroethene	11	ug/L	9/4/2012	12090404-14
DR-CPT-19-50	cis-1,2-Dichloroethene	680	ug/L	9/4/2012	12090404-14
DR-CPT-19-50	Chloroform	79	ug/L	9/4/2012	12090404-14
DR-CPT-19-50	Benzene	6	ug/L	9/4/2012	12090404-14
DR-CPT-19-50	1,2-Dichloroethane	32	ug/L	9/4/2012	12090404-14
DR-CPT-19-50	Trichloroethene	1700	ug/L	9/4/2012	12090404-14
DR-CPT-19-50	1,1,2-Trichloroethane	8	ug/L	9/4/2012	12090404-14
DR-CPT-DUP05-45	Vinyl chloride	270	ug/L	9/4/2012	12090404-15
DR-CPT-DUP05-45	trans-1,2-Dichloroethene	11	ug/L	9/4/2012	12090404-15
DR-CPT-DUP05-45	cis-1,2-Dichloroethene	490	ug/L	9/4/2012	12090404-15
DR-CPT-DUP05-45	Chloroform	28	ug/L	9/4/2012	12090404-15
DR-CPT-DUP05-45	Benzene	10	ug/L	9/4/2012	12090404-15
DR-CPT-DUP05-45	1,2-Dichloroethane	20	ug/L	9/4/2012	12090404-15
DR-CPT-DUP05-45	Trichloroethene	540	ug/L	9/4/2012	12090404-15
DR-CPT-DUP05-25	Vinyl chloride	2	ug/L	9/5/2012	12090502-02
DR-CPT-DUP05-25	cis-1,2-Dichloroethene	2	ug/L	9/5/2012	12090502-02
DR-CPT-DUP05-25	Benzene	1	ug/L	9/5/2012	12090502-02
DR-CPT-DUP05-25	1,2-Dichloroethane	1	ug/L	9/5/2012	12090502-02
DR-CPT-DUP05-25	Trichloroethene	1	ug/L	9/5/2012	12090502-02
DR-CPT-20-20	Benzene	2	ug/L	9/5/2012	12090502-03
DR-CPT-21-25	Vinyl chloride	2	ug/L	9/5/2012	12090502-04
DR-CPT-21-25	cis-1,2-Dichloroethene	2	ug/L	9/5/2012	12090502-04
DR-CPT-21-25	Benzene	1	ug/L	9/5/2012	12090502-04
DR-CPT-21-25	1,2-Dichloroethane	1	ug/L	9/5/2012	12090502-04
DR-CPT-21-25	Trichloroethene	1	ug/L	9/5/2012	12090502-04
DR-CPT-21-25	Toluene	1	ug/L	9/5/2012	12090502-04
DR-CPT-20-25	Vinyl chloride	73	ug/L	9/5/2012	12090502-05
DR-CPT-20-25	trans-1,2-Dichloroethene	2	ug/L	9/5/2012	12090502-05
DR-CPT-20-25	cis-1,2-Dichloroethene	160	ug/L	9/5/2012	12090502-05
DR-CPT-20-25	Benzene	2	ug/L	9/5/2012	12090502-05
DR-CPT-20-25	Trichloroethene	52	ug/L	9/5/2012	12090502-05
DR-CPT-20-25	Toluene	1	ug/L	9/5/2012	12090502-05
DR-CPT-20-25	Chlorobenzene	4	ug/L	9/5/2012	12090502-05
DR-CPT-20-30	Vinyl chloride	1800	ug/L	9/5/2012	12090502-06
DR-CPT-20-30	trans-1,2-Dichloroethene	55	ug/L	9/5/2012	12090502-06
DR-CPT-20-30	cis-1,2-Dichloroethene	4200	ug/L	9/5/2012	12090502-06
DR-CPT-20-30	Benzene	10	ug/L	9/5/2012	12090502-06
DR-CPT-20-30	Trichloroethene	1200	ug/L	9/5/2012	12090502-06
DR-CPT-20-30	Toluene	27	ug/L	9/5/2012	12090502-06
DR-CPT-20-30	Chlorobenzene	47	ug/L	9/5/2012	12090502-06
DR-CPT-20-30	Ethylbenzene	16	ug/L	9/5/2012	12090502-06
DR-CPT-21-30	Vinyl chloride	2	ug/L	9/5/2012	12090502-07
DR-CPT-21-30	cis-1,2-Dichloroethene	4	ug/L	9/5/2012	12090502-07
DR-CPT-21-30	1,2-Dichloroethane	6	ug/L	9/5/2012	12090502-07
DR-CPT-21-30	Trichloroethene	1	ug/L	9/5/2012	12090502-07
DR-CPT-20-35	Vinyl chloride	3100	ug/L	9/5/2012	12090502-08
DR-CPT-20-35	trans-1,2-Dichloroethene	11	ug/L	9/5/2012	12090502-08
DR-CPT-20-35	cis-1,2-Dichloroethene	2600	ug/L	9/5/2012	12090502-08

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-20-35	Benzene	17	ug/L	9/5/2012	12090502-08
DR-CPT-20-35	Trichloroethene	6	ug/L	9/5/2012	12090502-08
DR-CPT-20-35	Toluene	13	ug/L	9/5/2012	12090502-08
DR-CPT-20-35	Chlorobenzene	17	ug/L	9/5/2012	12090502-08
DR-CPT-21-35	Vinyl chloride	2	ug/L	9/5/2012	12090502-09
DR-CPT-21-35	cis-1,2-Dichloroethene	2	ug/L	9/5/2012	12090502-09
DR-CPT-21-35	1,2-Dichloroethane	4	ug/L	9/5/2012	12090502-09
DR-CPT-20-40	Vinyl chloride	210	ug/L	9/5/2012	12090502-10
DR-CPT-20-40	trans-1,2-Dichloroethene	2	ug/L	9/5/2012	12090502-10
DR-CPT-20-40	cis-1,2-Dichloroethene	130	ug/L	9/5/2012	12090502-10
DR-CPT-20-40	Benzene	5	ug/L	9/5/2012	12090502-10
DR-CPT-20-40	Trichloroethene	2	ug/L	9/5/2012	12090502-10
DR-CPT-20-40	Toluene	3	ug/L	9/5/2012	12090502-10
DR-CPT-20-40	Chlorobenzene	2	ug/L	9/5/2012	12090502-10
DR-CPT-20-45	Vinyl chloride	670	ug/L	9/5/2012	12090502-11
DR-CPT-20-45	cis-1,2-Dichloroethene	230	ug/L	9/5/2012	12090502-11
DR-CPT-20-45	Toluene	8	ug/L	9/5/2012	12090502-11
DR-CPT-20-45	Chlorobenzene	25	ug/L	9/5/2012	12090502-11
DR-CPT-20-50	Vinyl chloride	980	ug/L	9/5/2012	12090502-14
DR-CPT-20-50	trans-1,2-Dichloroethene	8	ug/L	9/5/2012	12090502-14
DR-CPT-20-50	cis-1,2-Dichloroethene	620	ug/L	9/5/2012	12090502-14
DR-CPT-20-50	Benzene	5	ug/L	9/5/2012	12090502-14
DR-CPT-20-50	Trichloroethene	21	ug/L	9/5/2012	12090502-14
DR-CPT-20-50	Chlorobenzene	60	ug/L	9/5/2012	12090502-14
DR-CPT-20-55	Vinyl chloride	910	ug/L	9/5/2012	12090502-15
DR-CPT-20-55	trans-1,2-Dichloroethene	7	ug/L	9/5/2012	12090502-15
DR-CPT-20-55	cis-1,2-Dichloroethene	690	ug/L	9/5/2012	12090502-15
DR-CPT-20-55	1,2-Dichloroethane	23	ug/L	9/5/2012	12090502-15
DR-CPT-20-55	Trichloroethene	74	ug/L	9/5/2012	12090502-15
DR-CPT-20-55	Chlorobenzene	43	ug/L	9/5/2012	12090502-15
DR-CPT-22-20	Vinyl chloride	77	ug/L	9/6/2012	12090609-03
DR-CPT-22-20	cis-1,2-Dichloroethene	2	ug/L	9/6/2012	12090609-03
DR-CPT-22-20	Benzene	3	ug/L	9/6/2012	12090609-03
DR-CPT-22-20	Toluene	17	ug/L	9/6/2012	12090609-03
DR-CPT-22-20	Ethylbenzene	4	ug/L	9/6/2012	12090609-03
DR-CPT-22-20	m&p-Xylene	11	ug/L	9/6/2012	12090609-03
DR-CPT-22-20	o-Xylene	4	ug/L	9/6/2012	12090609-03
DR-CPT-22-30	Vinyl chloride	56	ug/L	9/6/2012	12090609-04
DR-CPT-22-30	cis-1,2-Dichloroethene	9	ug/L	9/6/2012	12090609-04
DR-CPT-22-30	Benzene	2	ug/L	9/6/2012	12090609-04
DR-CPT-22-30	Trichloroethene	4	ug/L	9/6/2012	12090609-04
DR-CPT-22-30	Toluene	10	ug/L	9/6/2012	12090609-04
DR-CPT-22-30	Chlorobenzene	1	ug/L	9/6/2012	12090609-04
DR-CPT-22-30	Ethylbenzene	4	ug/L	9/6/2012	12090609-04
DR-CPT-22-30	m&p-Xylene	9	ug/L	9/6/2012	12090609-04
DR-CPT-22-30	o-Xylene	4	ug/L	9/6/2012	12090609-04
DR-CPT-22-35	Vinyl chloride	62	ug/L	9/6/2012	12090609-05
DR-CPT-22-35	1,1-Dichloroethane	1	ug/L	9/6/2012	12090609-05
DR-CPT-22-35	cis-1,2-Dichloroethene	12	ug/L	9/6/2012	12090609-05
DR-CPT-22-35	Benzene	2	ug/L	9/6/2012	12090609-05
DR-CPT-22-35	1,2-Dichloroethane	2	ug/L	9/6/2012	12090609-05
DR-CPT-22-35	Trichloroethene	11	ug/L	9/6/2012	12090609-05
DR-CPT-22-35	Toluene	12	ug/L	9/6/2012	12090609-05
DR-CPT-22-35	Chlorobenzene	1	ug/L	9/6/2012	12090609-05

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-22-35	Ethylbenzene	6	ug/L	9/6/2012	12090609-05
DR-CPT-22-35	m&p-Xylene	19	ug/L	9/6/2012	12090609-05
DR-CPT-22-35	o-Xylene	6	ug/L	9/6/2012	12090609-05
DR-CPT-22-40	Vinyl chloride	55	ug/L	9/6/2012	12090609-06
DR-CPT-22-40	cis-1,2-Dichloroethene	6	ug/L	9/6/2012	12090609-06
DR-CPT-22-40	1,2-Dichloroethane	2	ug/L	9/6/2012	12090609-06
DR-CPT-22-40	Trichloroethene	140	ug/L	9/6/2012	12090609-06
DR-CPT-22-40	Toluene	11	ug/L	9/6/2012	12090609-06
DR-CPT-22-40	Ethylbenzene	1	ug/L	9/6/2012	12090609-06
DR-CPT-22-40	m&p-Xylene	5	ug/L	9/6/2012	12090609-06
DR-CPT-22-40	o-Xylene	2	ug/L	9/6/2012	12090609-06
DR-CPT-DUP06-30	Vinyl chloride	53	ug/L	9/6/2012	12090609-07
DR-CPT-DUP06-30	cis-1,2-Dichloroethene	9	ug/L	9/6/2012	12090609-07
DR-CPT-DUP06-30	Benzene	2	ug/L	9/6/2012	12090609-07
DR-CPT-DUP06-30	Trichloroethene	4	ug/L	9/6/2012	12090609-07
DR-CPT-DUP06-30	Toluene	8	ug/L	9/6/2012	12090609-07
DR-CPT-DUP06-30	Chlorobenzene	1	ug/L	9/6/2012	12090609-07
DR-CPT-DUP06-30	Ethylbenzene	3	ug/L	9/6/2012	12090609-07
DR-CPT-DUP06-30	m&p-Xylene	10	ug/L	9/6/2012	12090609-07
DR-CPT-DUP06-30	o-Xylene	4	ug/L	9/6/2012	12090609-07
DR-CPT-DUP07-15	Vinyl chloride	2	ug/L	9/7/2012	12090707-02
DR-CPT-DUP07-15	cis-1,2-Dichloroethene	4	ug/L	9/7/2012	12090707-02
DR-CPT-DUP07-15	m&p-Xylene	7	ug/L	9/7/2012	12090707-02
DR-CPT-17-15	Vinyl chloride	2	ug/L	9/7/2012	12090707-03
DR-CPT-17-15	cis-1,2-Dichloroethene	4	ug/L	9/7/2012	12090707-03
DR-CPT-17-15	m&p-Xylene	6	ug/L	9/7/2012	12090707-03
DR-CPT-17-20	Vinyl chloride	3	ug/L	9/7/2012	12090707-04
DR-CPT-17-20	cis-1,2-Dichloroethene	1	ug/L	9/7/2012	12090707-04
DR-CPT-17-20	Benzene	3	ug/L	9/7/2012	12090707-04
DR-CPT-17-25	Vinyl chloride	4	ug/L	9/7/2012	12090707-05
DR-CPT-17-25	cis-1,2-Dichloroethene	2	ug/L	9/7/2012	12090707-05
DR-CPT-17-25	Benzene	7	ug/L	9/7/2012	12090707-05
DR-CPT-17-25	1,2-Dichloroethane	3	ug/L	9/7/2012	12090707-05
DR-CPT-17-30	Vinyl chloride	48	ug/L	9/7/2012	12090707-06
DR-CPT-17-30	trans-1,2-Dichloroethene	1	ug/L	9/7/2012	12090707-06
DR-CPT-17-30	cis-1,2-Dichloroethene	420	ug/L	9/7/2012	12090707-06
DR-CPT-17-30	Chloroform	4	ug/L	9/7/2012	12090707-06
DR-CPT-17-30	Benzene	7	ug/L	9/7/2012	12090707-06
DR-CPT-17-30	1,2-Dichloroethane	2	ug/L	9/7/2012	12090707-06
DR-CPT-17-30	Trichloroethene	160	ug/L	9/7/2012	12090707-06
DR-CPT-17-30	m&p-Xylene	2	ug/L	9/7/2012	12090707-06
DR-CPT-17-35	cis-1,2-Dichloroethene	13	ug/L	9/7/2012	12090707-07
DR-CPT-17-35	Trichloroethene	4	ug/L	9/7/2012	12090707-07
DR-CPT-17-40	cis-1,2-Dichloroethene	1	ug/L	9/7/2012	12090707-08
DR-CPT-01-30	Vinyl chloride	11	ug/L	9/10/2012	12091003-01
DR-CPT-01-30	cis-1,2-Dichloroethene	34	ug/L	9/10/2012	12091003-01
DR-CPT-01-30	Trichloroethene	11	ug/L	9/10/2012	12091003-01
DR-CPT-01-40	Vinyl chloride	2	ug/L	9/10/2012	12091003-02
DR-CPT-01-40	cis-1,2-Dichloroethene	8	ug/L	9/10/2012	12091003-02
DR-CPT-01-40	Trichloroethene	4	ug/L	9/10/2012	12091003-02
DR-CPT-01-45	Vinyl chloride	2	ug/L	9/10/2012	12091003-03
DR-CPT-01-45	cis-1,2-Dichloroethene	21	ug/L	9/10/2012	12091003-03
DR-CPT-01-45	Trichloroethene	7	ug/L	9/10/2012	12091003-03
DR-CPT-01-50	Vinyl chloride	6	ug/L	9/10/2012	12091003-04

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-01-50	cis-1,2-Dichloroethene	81	ug/L	9/10/2012	12091003-04
DR-CPT-01-50	Chloroform	2	ug/L	9/10/2012	12091003-04
DR-CPT-01-50	Trichloroethene	18	ug/L	9/10/2012	12091003-04
DR-CPT-01-55	cis-1,2-Dichloroethene	2	ug/L	9/10/2012	12091003-05
DR-CPT-01-55	Trichloroethene	1	ug/L	9/10/2012	12091003-05
DR-CPT-01-60	cis-1,2-Dichloroethene	3	ug/L	9/10/2012	12091003-06
DR-CPT-02-15	Vinyl chloride	120	ug/L	9/10/2012	12091003-08
DR-CPT-02-15	trans-1,2-Dichloroethene	7	ug/L	9/10/2012	12091003-08
DR-CPT-02-15	cis-1,2-Dichloroethene	670	ug/L	9/10/2012	12091003-08
DR-CPT-02-15	Trichloroethene	91	ug/L	9/10/2012	12091003-08
DR-CPT-04-45	cis-1,2-Dichloroethene	1	ug/L	9/10/2012	12091003-09
DR-CPT-DUP09-45	cis-1,2-Dichloroethene	1	ug/L	9/10/2012	12091003-10
DR-CPT-DUP09-45	Trichloroethene	1	ug/L	9/10/2012	12091003-10
DR-CPT-04-50	cis-1,2-Dichloroethene	1	ug/L	9/10/2012	12091003-11
DR-CPT-02-35	cis-1,2-Dichloroethene	1	ug/L	9/10/2012	12091003-12
DR-CPT-02-35	Chloroform	3	ug/L	9/10/2012	12091003-12
DR-CPT-02-35	Trichloroethene	14	ug/L	9/10/2012	12091003-12
DR-CPT-02-40	Chloroform	1	ug/L	9/10/2012	12091003-14
DR-CPT-02-40	Trichloroethene	5	ug/L	9/10/2012	12091003-14
DR-CPT-DUP08-40	Vinyl chloride	2	ug/L	9/10/2012	12091003-15
DR-CPT-DUP08-40	cis-1,2-Dichloroethene	9	ug/L	9/10/2012	12091003-15
DR-CPT-DUP08-40	Trichloroethene	4	ug/L	9/10/2012	12091003-15
DR-CPT-17-55	cis-1,2-Dichloroethene	2	ug/L	9/11/2012	12091108-01
DR-CPT-17-55	m&p-Xylene	4	ug/L	9/11/2012	12091108-01
DR-CPT-08-20	Vinyl chloride	140	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	cis-1,2-Dichloroethene	2	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	Cyclohexane	20	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	Benzene	150	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	Methylcyclohexane	16	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	Toluene	1	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	Chlorobenzene	48	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	Ethylbenzene	3	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	Isopropylbenzene	3	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	1,4-Dichlorobenzene	3	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	1,2-Dichlorobenzene	10	ug/L	9/11/2012	12091108-02
DR-CPT-08-20	Diisopropyl ether (DIPE)	12	ug/L	9/11/2012	12091108-02
DR-CPT-08-25	Vinyl chloride	14000	ug/L	9/11/2012	12091108-03
DR-CPT-08-25	cis-1,2-Dichloroethene	3100	ug/L	9/11/2012	12091108-03
DR-CPT-08-25	Benzene	470	ug/L	9/11/2012	12091108-03
DR-CPT-08-25	1,2-Dichloroethane	110	ug/L	9/11/2012	12091108-03
DR-CPT-08-25	Trichloroethene	160	ug/L	9/11/2012	12091108-03
DR-CPT-08-25	Toluene	2000	ug/L	9/11/2012	12091108-03
DR-CPT-08-25	Chlorobenzene	360	ug/L	9/11/2012	12091108-03
DR-CPT-08-25	Ethylbenzene	140	ug/L	9/11/2012	12091108-03
DR-CPT-08-25	o-Xylene	140	ug/L	9/11/2012	12091108-03
DR-CPT-08-25	1,3-Dichlorobenzene	54	ug/L	9/11/2012	12091108-03
DR-CPT-08-25	1,4-Dichlorobenzene	170	ug/L	9/11/2012	12091108-03
DR-CPT-08-30	Vinyl chloride	22000	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	trans-1,2-Dichloroethene	270	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	cis-1,2-Dichloroethene	34000	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	Chloroform	79	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	Benzene	280	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	1,2-Dichloroethane	620	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	Trichloroethene	40000	ug/L	9/11/2012	12091108-04

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-08-30	Toluene	2800	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	Chlorobenzene	180	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	m&p-Xylene	120	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	o-Xylene	92	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	1,3-Dichlorobenzene	83	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	1,4-Dichlorobenzene	96	ug/L	9/11/2012	12091108-04
DR-CPT-08-30	1,2,4-Trichlorobenzene	630	ug/L	9/11/2012	12091108-04
DR-CPT-08-35	Vinyl chloride	2300	ug/L	9/11/2012	12091108-05
DR-CPT-08-35	trans-1,2-Dichloroethene	71	ug/L	9/11/2012	12091108-05
DR-CPT-08-35	cis-1,2-Dichloroethene	3100	ug/L	9/11/2012	12091108-05
DR-CPT-08-35	2-Butanone (MEK)	700	ug/L	9/11/2012	12091108-05
DR-CPT-08-35	Chloroform	58	ug/L	9/11/2012	12091108-05
DR-CPT-08-35	Benzene	61	ug/L	9/11/2012	12091108-05
DR-CPT-08-35	1,2-Dichloroethane	460	ug/L	9/11/2012	12091108-05
DR-CPT-08-35	Trichloroethene	9700	ug/L	9/11/2012	12091108-05
DR-CPT-08-35	Toluene	1600	ug/L	9/11/2012	12091108-05
DR-CPT-08-40	Vinyl chloride	960	ug/L	9/11/2012	12091108-06
DR-CPT-08-40	trans-1,2-Dichloroethene	8	ug/L	9/11/2012	12091108-06
DR-CPT-08-40	cis-1,2-Dichloroethene	1600	ug/L	9/11/2012	12091108-06
DR-CPT-08-40	Chloroform	5	ug/L	9/11/2012	12091108-06
DR-CPT-08-40	Benzene	20	ug/L	9/11/2012	12091108-06
DR-CPT-08-40	1,2-Dichloroethane	46	ug/L	9/11/2012	12091108-06
DR-CPT-08-40	Trichloroethene	1800	ug/L	9/11/2012	12091108-06
DR-CPT-08-40	Toluene	140	ug/L	9/11/2012	12091108-06
DR-CPT-08-40	Chlorobenzene	8	ug/L	9/11/2012	12091108-06
DR-CPT-08-40	1,2,4-Trichlorobenzene	12	ug/L	9/11/2012	12091108-06
DR-CPT-08-45	Vinyl chloride	1800	ug/L	9/12/2012	12091203-02
DR-CPT-08-45	trans-1,2-Dichloroethene	7	ug/L	9/12/2012	12091203-02
DR-CPT-08-45	cis-1,2-Dichloroethene	1500	ug/L	9/12/2012	12091203-02
DR-CPT-08-45	Benzene	30	ug/L	9/12/2012	12091203-02
DR-CPT-08-45	1,2-Dichloroethane	20	ug/L	9/12/2012	12091203-02
DR-CPT-08-45	Trichloroethene	440	ug/L	9/12/2012	12091203-02
DR-CPT-08-45	Toluene	6	ug/L	9/12/2012	12091203-02
DR-CPT-08-45	Chlorobenzene	6	ug/L	9/12/2012	12091203-02
DR-CPT-08-45	1,3-Dichlorobenzene	5	ug/L	9/12/2012	12091203-02
DR-CPT-08-45	1,4-Dichlorobenzene	5	ug/L	9/12/2012	12091203-02
DR-CPT-08-45	1,2,4-Trichlorobenzene	21	ug/L	9/12/2012	12091203-02
DR-CPT-DUP10-45	Vinyl chloride	1700	ug/L	9/12/2012	12091203-03
DR-CPT-DUP10-45	trans-1,2-Dichloroethene	7	ug/L	9/12/2012	12091203-03
DR-CPT-DUP10-45	cis-1,2-Dichloroethene	1400	ug/L	9/12/2012	12091203-03
DR-CPT-DUP10-45	Benzene	29	ug/L	9/12/2012	12091203-03
DR-CPT-DUP10-45	1,2-Dichloroethane	19	ug/L	9/12/2012	12091203-03
DR-CPT-DUP10-45	Trichloroethene	440	ug/L	9/12/2012	12091203-03
DR-CPT-DUP10-45	Toluene	6	ug/L	9/12/2012	12091203-03
DR-CPT-DUP10-45	Chlorobenzene	6	ug/L	9/12/2012	12091203-03
DR-CPT-DUP10-45	1,2,4-Trichlorobenzene	19	ug/L	9/12/2012	12091203-03
DR-CPT-08-50	Vinyl chloride	490	ug/L	9/12/2012	12091203-04
DR-CPT-08-50	Chloroethane	20	ug/L	9/12/2012	12091203-04
DR-CPT-08-50	trans-1,2-Dichloroethene	2	ug/L	9/12/2012	12091203-04
DR-CPT-08-50	cis-1,2-Dichloroethene	390	ug/L	9/12/2012	12091203-04
DR-CPT-08-50	Benzene	8	ug/L	9/12/2012	12091203-04
DR-CPT-08-50	1,2-Dichloroethane	7	ug/L	9/12/2012	12091203-04
DR-CPT-08-50	Trichloroethene	98	ug/L	9/12/2012	12091203-04
DR-CPT-08-50	Toluene	4	ug/L	9/12/2012	12091203-04

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-08-50	Chlorobenzene	3	ug/L	9/12/2012	12091203-04
DR-CPT-08-50	1,2,4-Trichlorobenzene	4	ug/L	9/12/2012	12091203-04
DR-CPT-08-55	Vinyl chloride	440	ug/L	9/12/2012	12091203-05
DR-CPT-08-55	Chloroethane	16	ug/L	9/12/2012	12091203-05
DR-CPT-08-55	trans-1,2-Dichloroethene	2	ug/L	9/12/2012	12091203-05
DR-CPT-08-55	cis-1,2-Dichloroethene	350	ug/L	9/12/2012	12091203-05
DR-CPT-08-55	Benzene	7	ug/L	9/12/2012	12091203-05
DR-CPT-08-55	1,2-Dichloroethane	6	ug/L	9/12/2012	12091203-05
DR-CPT-08-55	Trichloroethene	92	ug/L	9/12/2012	12091203-05
DR-CPT-08-55	Toluene	5	ug/L	9/12/2012	12091203-05
DR-CPT-08-55	Chlorobenzene	3	ug/L	9/12/2012	12091203-05
DR-CPT-08-55	1,2,4-Trichlorobenzene	3	ug/L	9/12/2012	12091203-05
DR-CPT-10-20	Vinyl chloride	29	ug/L	9/12/2012	12091203-06
DR-CPT-10-20	Chloroethane	1	ug/L	9/12/2012	12091203-06
DR-CPT-10-20	trans-1,2-Dichloroethene	3	ug/L	9/12/2012	12091203-06
DR-CPT-10-20	cis-1,2-Dichloroethene	340	ug/L	9/12/2012	12091203-06
DR-CPT-10-20	Benzene	2	ug/L	9/12/2012	12091203-06
DR-CPT-10-25	Vinyl chloride	150	ug/L	9/12/2012	12091203-07
DR-CPT-10-25	trans-1,2-Dichloroethene	2	ug/L	9/12/2012	12091203-07
DR-CPT-10-25	cis-1,2-Dichloroethene	57	ug/L	9/12/2012	12091203-07
DR-CPT-10-30	Vinyl chloride	160	ug/L	9/12/2012	12091203-08
DR-CPT-10-30	trans-1,2-Dichloroethene	2	ug/L	9/12/2012	12091203-08
DR-CPT-10-30	cis-1,2-Dichloroethene	180	ug/L	9/12/2012	12091203-08
DR-CPT-10-30	Benzene	2	ug/L	9/12/2012	12091203-08
DR-CPT-10-30	Trichloroethene	18	ug/L	9/12/2012	12091203-08
DR-CPT-10-35	Vinyl chloride	1400	ug/L	9/13/2012	12091308-01
DR-CPT-10-35	cis-1,2-Dichloroethene	540	ug/L	9/13/2012	12091308-01
DR-CPT-10-35	Benzene	12	ug/L	9/13/2012	12091308-01
DR-CPT-10-35	Trichloroethene	49	ug/L	9/13/2012	12091308-01
DR-CPT-10-40	Vinyl chloride	670	ug/L	9/13/2012	12091308-02
DR-CPT-10-40	cis-1,2-Dichloroethene	730	ug/L	9/13/2012	12091308-02
DR-CPT-10-40	Benzene	6	ug/L	9/13/2012	12091308-02
DR-CPT-10-40	1,2-Dichloroethane	9	ug/L	9/13/2012	12091308-02
DR-CPT-10-40	Trichloroethene	89	ug/L	9/13/2012	12091308-02
DR-CPT-10-45	Vinyl chloride	590	ug/L	9/13/2012	12091308-03
DR-CPT-10-45	trans-1,2-Dichloroethene	9	ug/L	9/13/2012	12091308-03
DR-CPT-10-45	cis-1,2-Dichloroethene	910	ug/L	9/13/2012	12091308-03
DR-CPT-10-45	Trichloroethene	380	ug/L	9/13/2012	12091308-03
DR-CPT-10-50	Vinyl chloride	290	ug/L	9/13/2012	12091308-04
DR-CPT-10-50	trans-1,2-Dichloroethene	5	ug/L	9/13/2012	12091308-04
DR-CPT-10-50	cis-1,2-Dichloroethene	460	ug/L	9/13/2012	12091308-04
DR-CPT-10-50	Trichloroethene	400	ug/L	9/13/2012	12091308-04
DR-CPT-10-55	Vinyl chloride	19	ug/L	9/13/2012	12091308-05
DR-CPT-10-55	cis-1,2-Dichloroethene	39	ug/L	9/13/2012	12091308-05
DR-CPT-10-55	Trichloroethene	100	ug/L	9/13/2012	12091308-05
DR-CPT-07-15	Vinyl chloride	55	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	trans-1,2-Dichloroethene	2	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	cis-1,2-Dichloroethene	7	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	Cyclohexane	10	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	Benzene	57	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	1,2-Dichloroethane	2	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	Trichloroethene	8	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	Methylcyclohexane	14	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	Toluene	53	ug/L	9/14/2012	12091407-01

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-07-15	Tetrachloroethene	5	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	Chlorobenzene	10	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	Ethylbenzene	2	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	m&p-Xylene	8	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	o-Xylene	7	ug/L	9/14/2012	12091407-01
DR-CPT-07-15	Diisopropyl ether (DIPE)	22	ug/L	9/14/2012	12091407-01
DR-CPT-07-25	Vinyl chloride	5200	ug/L	9/14/2012	12091407-02
DR-CPT-07-25	Chloroethane	100	ug/L	9/14/2012	12091407-02
DR-CPT-07-25	cis-1,2-Dichloroethene	2900	ug/L	9/14/2012	12091407-02
DR-CPT-07-25	Benzene	120	ug/L	9/14/2012	12091407-02
DR-CPT-07-30	Vinyl chloride	4000	ug/L	9/14/2012	12091407-03
DR-CPT-07-30	Chloroethane	94	ug/L	9/14/2012	12091407-03
DR-CPT-07-30	cis-1,2-Dichloroethene	4400	ug/L	9/14/2012	12091407-03
DR-CPT-07-30	Benzene	88	ug/L	9/14/2012	12091407-03
DR-CPT-07-30	Trichloroethene	1400	ug/L	9/14/2012	12091407-03
DR-CPT-07-35	Vinyl chloride	85	ug/L	9/17/2012	12091704-02
DR-CPT-07-35	cis-1,2-Dichloroethene	110	ug/L	9/17/2012	12091704-02
DR-CPT-07-35	Benzene	2	ug/L	9/17/2012	12091704-02
DR-CPT-07-35	1,2-Dichloroethane	1	ug/L	9/17/2012	12091704-02
DR-CPT-07-35	Trichloroethene	30	ug/L	9/17/2012	12091704-02
DR-CPT-07-35	Toluene	8	ug/L	9/17/2012	12091704-02
DR-CPT-07-35	m&p-Xylene	3	ug/L	9/17/2012	12091704-02
DR-CPT-07-35	o-Xylene	2	ug/L	9/17/2012	12091704-02
DR-CPT-07-40	Vinyl chloride	150	ug/L	9/17/2012	12091704-03
DR-CPT-07-40	cis-1,2-Dichloroethene	380	ug/L	9/17/2012	12091704-03
DR-CPT-07-40	Trichloroethene	190	ug/L	9/17/2012	12091704-03
DR-CPT-07-40	Toluene	10	ug/L	9/17/2012	12091704-03
DR-CPT-07-45	Vinyl chloride	63	ug/L	9/17/2012	12091704-04
DR-CPT-07-45	cis-1,2-Dichloroethene	120	ug/L	9/17/2012	12091704-04
DR-CPT-07-45	Trichloroethene	33	ug/L	9/17/2012	12091704-04
DR-CPT-07-50	Vinyl chloride	170	ug/L	9/17/2012	12091704-05
DR-CPT-07-50	cis-1,2-Dichloroethene	250	ug/L	9/17/2012	12091704-05
DR-CPT-07-50	Trichloroethene	100	ug/L	9/17/2012	12091704-05
DR-CPT-07-55	Vinyl chloride	740	ug/L	9/17/2012	12091704-06
DR-CPT-07-55	Chloroethane	6	ug/L	9/17/2012	12091704-06
DR-CPT-07-55	cis-1,2-Dichloroethene	780	ug/L	9/17/2012	12091704-06
DR-CPT-07-55	Benzene	9	ug/L	9/17/2012	12091704-06
DR-CPT-07-55	Trichloroethene	150	ug/L	9/17/2012	12091704-06
DR-CPT-07-60	Vinyl chloride	53	ug/L	9/17/2012	12091704-07
DR-CPT-07-60	cis-1,2-Dichloroethene	30	ug/L	9/17/2012	12091704-07
DR-CPT-07-60	Trichloroethene	8	ug/L	9/17/2012	12091704-07
DR-CPT-DUP11-35	Vinyl chloride	100	ug/L	9/17/2012	12091704-08
DR-CPT-DUP11-35	cis-1,2-Dichloroethene	120	ug/L	9/17/2012	12091704-08
DR-CPT-DUP11-35	Benzene	2	ug/L	9/17/2012	12091704-08
DR-CPT-DUP11-35	1,2-Dichloroethane	1	ug/L	9/17/2012	12091704-08
DR-CPT-DUP11-35	Trichloroethene	29	ug/L	9/17/2012	12091704-08
DR-CPT-DUP11-35	Toluene	8	ug/L	9/17/2012	12091704-08
DR-CPT-DUP11-35	m&p-Xylene	3	ug/L	9/17/2012	12091704-08
DR-CPT-DUP11-35	o-Xylene	2	ug/L	9/17/2012	12091704-08
DR-CPT-06-15	Vinyl chloride	66	ug/L	9/17/2012	12091704-09
DR-CPT-06-15	trans-1,2-Dichloroethene	3	ug/L	9/17/2012	12091704-09
DR-CPT-06-15	cis-1,2-Dichloroethene	1	ug/L	9/17/2012	12091704-09
DR-CPT-06-15	Benzene	4	ug/L	9/17/2012	12091704-09
DR-CPT-06-20	Vinyl chloride	5	ug/L	9/17/2012	12091704-10

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-06-20	trans-1,2-Dichloroethene	1	ug/L	9/17/2012	12091704-10
DR-CPT-06-20	Benzene	2	ug/L	9/17/2012	12091704-10
DR-CPT-06-25	Vinyl chloride	23	ug/L	9/18/2012	12091803-01
DR-CPT-06-25	trans-1,2-Dichloroethene	1	ug/L	9/18/2012	12091803-01
DR-CPT-06-25	cis-1,2-Dichloroethene	2	ug/L	9/18/2012	12091803-01
DR-CPT-06-30	Vinyl chloride	120	ug/L	9/18/2012	12091803-03
DR-CPT-06-30	trans-1,2-Dichloroethene	19	ug/L	9/18/2012	12091803-03
DR-CPT-06-30	cis-1,2-Dichloroethene	1000	ug/L	9/18/2012	12091803-03
DR-CPT-06-30	Chloroform	54	ug/L	9/18/2012	12091803-03
DR-CPT-06-30	Benzene	13	ug/L	9/18/2012	12091803-03
DR-CPT-06-30	1,2-Dichloroethane	57	ug/L	9/18/2012	12091803-03
DR-CPT-06-30	Trichloroethene	2700	ug/L	9/18/2012	12091803-03
DR-CPT-06-30	1,1,2-Trichloroethane	8	ug/L	9/18/2012	12091803-03
DR-CPT-06-35	Vinyl chloride	26	ug/L	9/18/2012	12091803-04
DR-CPT-06-35	trans-1,2-Dichloroethene	13	ug/L	9/18/2012	12091803-04
DR-CPT-06-35	cis-1,2-Dichloroethene	340	ug/L	9/18/2012	12091803-04
DR-CPT-06-35	Chloroform	140	ug/L	9/18/2012	12091803-04
DR-CPT-06-35	Benzene	11	ug/L	9/18/2012	12091803-04
DR-CPT-06-35	1,2-Dichloroethane	70	ug/L	9/18/2012	12091803-04
DR-CPT-06-35	Trichloroethene	2700	ug/L	9/18/2012	12091803-04
DR-CPT-06-35	1,1,2-Trichloroethane	11	ug/L	9/18/2012	12091803-04
DR-CPT-06-40	Vinyl chloride	5	ug/L	9/18/2012	12091803-05
DR-CPT-06-40	trans-1,2-Dichloroethene	2	ug/L	9/18/2012	12091803-05
DR-CPT-06-40	cis-1,2-Dichloroethene	84	ug/L	9/18/2012	12091803-05
DR-CPT-06-40	Chloroform	29	ug/L	9/18/2012	12091803-05
DR-CPT-06-40	Benzene	2	ug/L	9/18/2012	12091803-05
DR-CPT-06-40	1,2-Dichloroethane	17	ug/L	9/18/2012	12091803-05
DR-CPT-06-40	Trichloroethene	370	ug/L	9/18/2012	12091803-05
DR-CPT-06-40	1,1,2-Trichloroethane	3	ug/L	9/18/2012	12091803-05
DR-CPT-06-45	cis-1,2-Dichloroethene	6	ug/L	9/18/2012	12091803-06
DR-CPT-06-45	Chloroform	3	ug/L	9/18/2012	12091803-06
DR-CPT-06-45	1,2-Dichloroethane	1	ug/L	9/18/2012	12091803-06
DR-CPT-06-45	Trichloroethene	35	ug/L	9/18/2012	12091803-06
DR-CPT-18-20	Vinyl chloride	6	ug/L	9/19/2012	12091907-02
DR-CPT-18-20	cis-1,2-Dichloroethene	2	ug/L	9/19/2012	12091907-02
DR-CPT-18-20	Benzene	1	ug/L	9/19/2012	12091907-02
DR-CPT-18-25	Vinyl chloride	4	ug/L	9/19/2012	12091907-03
DR-CPT-18-25	cis-1,2-Dichloroethene	10	ug/L	9/19/2012	12091907-03
DR-CPT-18-25	Trichloroethene	4	ug/L	9/19/2012	12091907-03
DR-CPT-18-30	Vinyl chloride	1	ug/L	9/19/2012	12091907-04
DR-CPT-18-30	cis-1,2-Dichloroethene	64	ug/L	9/19/2012	12091907-04
DR-CPT-18-30	Benzene	6	ug/L	9/19/2012	12091907-04
DR-CPT-18-30	Trichloroethene	69	ug/L	9/19/2012	12091907-04
DR-CPT-18-30	Toluene	4	ug/L	9/19/2012	12091907-04
DR-CPT-18-35	Vinyl chloride	4	ug/L	9/19/2012	12091907-05
DR-CPT-18-35	cis-1,2-Dichloroethene	68	ug/L	9/19/2012	12091907-05
DR-CPT-18-35	Benzene	18	ug/L	9/19/2012	12091907-05
DR-CPT-18-35	Trichloroethene	2	ug/L	9/19/2012	12091907-05
DR-CPT-18-35	m&p-Xylene	6	ug/L	9/19/2012	12091907-05
DR-CPT-18-40	cis-1,2-Dichloroethene	4	ug/L	9/19/2012	12091907-06
DR-CPT-18-40	Benzene	1	ug/L	9/19/2012	12091907-06
DR-CPT-05-20	Vinyl chloride	8	ug/L	9/20/2012	12092006-03
DR-CPT-05-20	cis-1,2-Dichloroethene	7	ug/L	9/20/2012	12092006-03
DR-CPT-05-20	Benzene	2	ug/L	9/20/2012	12092006-03

Field_Sample_ID	Analysis	Result	Units	Date_Sampled	Lab_ID
DR-CPT-05-20	Trichloroethene	3	ug/L	9/20/2012	12092006-03
DR-CPT-05-25	Vinyl chloride	38	ug/L	9/20/2012	12092006-04
DR-CPT-05-25	cis-1,2-Dichloroethene	89	ug/L	9/20/2012	12092006-04
DR-CPT-05-25	Trichloroethene	36	ug/L	9/20/2012	12092006-04
DR-CPT-05-30	Vinyl chloride	280	ug/L	9/20/2012	12092006-05
DR-CPT-05-30	cis-1,2-Dichloroethene	800	ug/L	9/20/2012	12092006-05
DR-CPT-05-30	Chloroform	6	ug/L	9/20/2012	12092006-05
DR-CPT-05-30	Trichloroethene	400	ug/L	9/20/2012	12092006-05
DR-CPT-05-35	Vinyl chloride	5	ug/L	9/20/2012	12092006-06
DR-CPT-05-35	cis-1,2-Dichloroethene	35	ug/L	9/20/2012	12092006-06
DR-CPT-05-35	Trichloroethene	21	ug/L	9/20/2012	12092006-06

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech EM Inc.

Date Sampled: 08/27/12 13:00
Date Received: 08/27/12 15:40
Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-25 **Matrix: Water** **Lab ID: 12082704-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Vinyl chloride	**7**	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 8:43	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
cis-1,2-Dichloroethene	**34**	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Trichloroethene	**54**	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/28/12	08/28/12 8:43	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL

8851 Orchard Tree Lane Towson, Maryland 21286
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Certificate of Analysis

Tetra Tech EM Inc.

Date Sampled: 08/27/12 13:00
Date Received: 08/27/12 15:40
Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-25 **Matrix: Water** **Lab ID: 12082704-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 8:43	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 8:43	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/28/12	08/28/12 8:43	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech EM Inc.

Date Sampled: 08/27/12 13:15
Date Received: 08/27/12 15:40
Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-30 **Matrix: Water** **Lab ID: 12082704-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Vinyl chloride	**70**	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 18:48	JKL
trans-1,2-Dichloroethene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
cis-1,2-Dichloroethene	**270**	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,2-Dichloroethane	**56**	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Trichloroethene	**3,400**	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Toluene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/27/12	08/27/12 18:48	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL

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Date Sampled: 08/27/12 13:15
Date Received: 08/27/12 15:40
Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-30 **Matrix: Water** **Lab ID: 12082704-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/27/12	08/27/12 18:48	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/27/12	08/27/12 18:48	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 18:48	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-35 **Matrix: Water** **Lab ID: 12082704-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Vinyl chloride	**130**	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:19	JKL
trans-1,2-Dichloroethene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
cis-1,2-Dichloroethene	**950**	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,1,1-Trichloroethane	**91**	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,2-Dichloroethane	**160**	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Trichloroethene	**7,200**	ug/L	400	EPA 8260B	08/28/12	08/28/12 9:13	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Toluene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/27/12	08/27/12 19:19	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL

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Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-35 **Matrix: Water** **Lab ID: 12082704-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/27/12	08/27/12 19:19	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/27/12	08/27/12 19:19	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:19	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-40 **Matrix: Water** **Lab ID: 12082704-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Vinyl chloride	**55**	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:49	JKL
trans-1,2-Dichloroethene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
cis-1,2-Dichloroethene	**190**	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Trichloroethene	**1,600**	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Toluene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/27/12	08/27/12 19:49	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-40 **Matrix: Water** **Lab ID: 12082704-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/27/12	08/27/12 19:49	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/27/12	08/27/12 19:49	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/27/12	08/27/12 19:49	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 08/27/12 14:25
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Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-45 **Matrix: Water** **Lab ID: 12082704-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Vinyl chloride	**38**	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Acetone	ND	ug/L	50	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 9:43	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
cis-1,2-Dichloroethene	**110**	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Chloroform	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Benzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,2-Dichloroethane	**7**	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Trichloroethene	**360**	ug/L	50	EPA 8260B	08/27/12	08/27/12 20:19	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Toluene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	08/28/12	08/28/12 9:43	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech EM Inc.

Date Sampled: 08/27/12 14:25
Date Received: 08/27/12 15:40
Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-45 **Matrix: Water** **Lab ID: 12082704-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Bromoform	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	08/28/12	08/28/12 9:43	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	08/28/12	08/28/12 9:43	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 9:43	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech EM Inc.

Date Sampled: 08/27/12 14:50
Date Received: 08/27/12 15:40
Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-50 **Matrix: Water** **Lab ID: 12082704-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Vinyl chloride	**62**	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Acetone	ND	ug/L	50	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 10:13	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
cis-1,2-Dichloroethene	**130**	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Chloroform	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Benzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Trichloroethene	**150**	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Toluene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	08/28/12	08/28/12 10:13	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech EM Inc.

Date Sampled: 08/27/12 14:50
Date Received: 08/27/12 15:40
Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: DR-CPT-11-50 **Matrix: Water** **Lab ID: 12082704-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Bromoform	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	08/28/12	08/28/12 10:13	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	08/28/12	08/28/12 10:13	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	08/28/12	08/28/12 10:13	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech EM Inc.

Date Sampled: 08/27/12
Date Received: 08/27/12 15:40
Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: TB-082712 **Matrix: Water** **Lab ID: 12082704-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	08/27/12	08/27/12 17:48	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	08/27/12	08/27/12 17:48	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/27/12	08/27/12 17:48	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech EM Inc.

Date Sampled: 08/27/12
Date Received: 08/27/12 15:40
Date Issued: 08/28/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082704

Field Sample ID: TB-082712 **Matrix: Water** **Lab ID: 12082704-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/27/12	08/27/12 17:48	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/27/12	08/27/12 17:48	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/27/12	08/27/12 17:48	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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CALIBER ANALYTICAL SERVICES

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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	120827O4
Sampled by:	Walt Payton
PO Number:	

Page 1 of ___

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Matrix *	Preservative	VOCs by 8260B										Sampling Remarks/ Comments
	DR-CPT-11-25	8-27-12	1300	3	GW		√										
	DR-CPT-11-30	"	1315	3	GW		√										
	DR-CPT-11-35	"	1330	3	GW		√										
	DR-CPT-11-40	"	1400	3	GW		√										
	DR-CPT-11-45	"	1425	3	GW		√										
	DR-CPT-11-50	"	1450	3	GW		√										
	TB-082712	"	0000	2	GW		√										
				3	GW		√										
				3	GW		√										
				3	GW		√										

Relinquished by:	Walt Payton	Date/Time:	8-27-12 / 1530
Received by:		Date/Time:	8/27/12 1540
Relinquished by:		Date/Time:	
Received by:		Date/Time:	
Relinquished by:		Date/Time:	
Received by:		Date/Time:	

Deliverables: I II III CLP EDD

Custody Seals: Sample (Cooler) Delivered by client (CAS Courier)

Receipt Temperature: Temp:____ (On Ice)

Turnaround Time: STD (Next Day) 2 Day Other____

Comments/Special Instructions:

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/29/12 9:00
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-35 **Matrix: Water** **Lab ID: 12082904-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Vinyl chloride	**180**	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:28	JKL
trans-1,2-Dichloroethene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,1-Dichloroethane	**130**	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
cis-1,2-Dichloroethene	**1,100**	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,1,1-Trichloroethane	**51**	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,2-Dichloroethane	**82**	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Trichloroethene	**3,500**	ug/L	400	EPA 8260B	08/30/12	08/30/12 1:17	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Toluene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/29/12	08/29/12 18:28	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL

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Tetra Tech Inc.

Date Sampled: 08/29/12 9:00
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-35 **Matrix: Water** **Lab ID: 12082904-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/29/12	08/29/12 18:28	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/29/12	08/29/12 18:28	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:28	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 08/29/12 9:18
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-40 **Matrix: Water** **Lab ID: 12082904-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Vinyl chloride	**57**	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:58	JKL
trans-1,2-Dichloroethene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,1-Dichloroethane	**110**	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
cis-1,2-Dichloroethene	**410**	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,1,1-Trichloroethane	**68**	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,2-Dichloroethane	**66**	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Trichloroethene	**1,600**	ug/L	400	EPA 8260B	08/30/12	08/30/12 1:45	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Toluene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/29/12	08/29/12 18:58	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL

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Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-40 **Matrix: Water** **Lab ID: 12082904-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/29/12	08/29/12 18:58	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/29/12	08/29/12 18:58	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 18:58	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-45 **Matrix: Water** **Lab ID: 12082904-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Vinyl chloride	**42**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Methylene chloride	ND	ug/L	6	EPA 8260B	08/30/12	08/30/12 2:14	JKL
trans-1,2-Dichloroethene	**5**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,1-Dichloroethane	**11**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
cis-1,2-Dichloroethene	**310**	ug/L	50	EPA 8260B	08/29/12	08/29/12 19:28	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Chloroform	**1**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,1,1-Trichloroethane	**7**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Benzene	**2**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,2-Dichloroethane	**20**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Trichloroethene	**2,000**	ug/L	50	EPA 8260B	08/29/12	08/29/12 19:28	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Tetrachloroethene	**1**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/30/12	08/30/12 2:14	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/29/12 9:40
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-45 **Matrix: Water** **Lab ID: 12082904-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/30/12	08/30/12 2:14	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/30/12	08/30/12 2:14	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:14	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Date Sampled: 08/29/12 10:08
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-50 **Matrix: Water** **Lab ID: 12082904-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Vinyl chloride	**46**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:44	JKL
trans-1,2-Dichloroethene	**3**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
cis-1,2-Dichloroethene	**160**	ug/L	50	EPA 8260B	08/29/12	08/29/12 19:58	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Benzene	**1**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,2-Dichloroethane	**3**	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Trichloroethene	**180**	ug/L	50	EPA 8260B	08/29/12	08/29/12 19:58	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/30/12	08/30/12 2:44	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL

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Tetra Tech Inc.

Date Sampled: 08/29/12 10:08
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-50 **Matrix: Water** **Lab ID: 12082904-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/30/12	08/30/12 2:44	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/30/12	08/30/12 2:44	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 2:44	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

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Date Sampled: 08/29/12 10:40
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-55 **Matrix: Water** **Lab ID: 12082904-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Vinyl chloride	**200**	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 13:17	JKL
trans-1,2-Dichloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
cis-1,2-Dichloroethene	**1,300**	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Trichloroethene	**1,500**	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Toluene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/30/12	08/30/12 13:17	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL

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Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-55 **Matrix: Water** **Lab ID: 12082904-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/30/12	08/30/12 13:17	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/30/12	08/30/12 13:17	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 13:17	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-60 **Matrix: Water** **Lab ID: 12082904-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Vinyl chloride	**65**	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 9:18	JKL
trans-1,2-Dichloroethene	**9**	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,1-Dichloroethane	**3**	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
cis-1,2-Dichloroethene	**340**	ug/L	50	EPA 8260B	08/30/12	08/30/12 3:41	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,1,1-Trichloroethane	**2**	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Benzene	**2**	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,2-Dichloroethane	**6**	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Trichloroethene	**350**	ug/L	50	EPA 8260B	08/30/12	08/30/12 3:41	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Toluene	**1**	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/30/12	08/30/12 9:18	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/29/12 11:30
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-12-60 **Matrix: Water** **Lab ID: 12082904-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/30/12	08/30/12 9:18	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/30/12	08/30/12 9:18	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 9:18	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 08/29/12 14:30
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CRT-13-25 **Matrix: Water** **Lab ID: 12082904-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Vinyl chloride	**750**	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Methylene chloride	ND	ug/L	500	EPA 8260B	08/29/12	08/29/12 22:51	JKL
trans-1,2-Dichloroethene	**1,700**	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
cis-1,2-Dichloroethene	**560,000**	ug/L	40000	EPA 8260B	08/30/12	08/30/12 11:01	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,2-Dichloroethane	**97**	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Trichloroethene	**2,400**	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Toluene	**250**	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Tetrachloroethene	ND	ug/L	100	EPA 8260B	08/29/12	08/29/12 22:51	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/29/12	08/29/12 22:51	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/29/12 14:30
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CRT-13-25 **Matrix: Water** **Lab ID: 12082904-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/29/12	08/29/12 22:51	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/29/12	08/29/12 22:51	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/29/12	08/29/12 22:51	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/29/12 14:45
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-13-30 **Matrix: Water** **Lab ID: 12082904-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Vinyl chloride	**1,900**	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 8:48	JKL
trans-1,2-Dichloroethene	**3,700**	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
cis-1,2-Dichloroethene	**190,000**	ug/L	4000	EPA 8260B	08/30/12	08/30/12 10:31	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,2-Dichloroethane	**310**	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Trichloroethene	**17,000**	ug/L	4000	EPA 8260B	08/30/12	08/30/12 10:31	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Toluene	**190**	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/30/12	08/30/12 8:48	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/29/12 14:45
Date Received: 08/29/12 15:30
Date Issued: 08/30/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12082904

Field Sample ID: DR-CPT-13-30 **Matrix: Water** **Lab ID: 12082904-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/30/12	08/30/12 8:48	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/30/12	08/30/12 8:48	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 8:48	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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CALIBER ANALYTICAL SERVICES

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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	120829O4
Sampled by:	SB Cameron
PO Number:	

Page 1 of 1

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Matrix *	Preservative	VOCs by 8260B									Sampling Remarks/ Comments
	DR-CPT-12-35	7-29-12	0900	3	GW		√									
	DR-CPT-12-40		0918	3	GW		√									
	DR-CPT-12-45		0940	3	GW		√									
	DR-CPT-12-50		1008	3	GW		√									
	DR-CPT-12-55		1040	3	GW		√									
	DR-CPT-12-60		1130	3	GW		√									
	DR-CPT-13-25		1430	3	GW		√									
	DR-CPT-13-30	↓	1445	3	GW		√									
				3	GW		√									
				3	GW		√									

Relinquished by:		**Date/Time:**	7-29-12/1530
Received by:		**Date/Time:**	
Relinquished by:		**Date/Time:**	
Received by:		**Date/Time:**	
Relinquished by:		**Date/Time:**	
Received by:		**Date/Time:**	

Deliverables:
I II III CLP EDD

Custody Seals:
Sample (Cooler)
Delivered by client
(CAS Courier)

Receipt Temperature:
Temp:_____ (On Ice)

Turnaround Time:
STD (Next Day) 2 Day Other____

Comments/Special Instructions:

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-DUP02-40 **Matrix: Water** **Lab ID: 12083004-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Vinyl chloride	**130**	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 17:32	JKL
trans-1,2-Dichloroethene	**70**	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
cis-1,2-Dichloroethene	**6,400**	ug/L	400	EPA 8260B	08/31/12	08/31/12 17:14	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Trichloroethene	**10,000**	ug/L	400	EPA 8260B	08/31/12	08/31/12 17:14	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Toluene	**130**	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/30/12	08/30/12 17:32	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-DUP02-40 **Matrix: Water** **Lab ID: 12083004-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/30/12	08/30/12 17:32	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/30/12	08/30/12 17:32	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 17:32	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-DUP03-30 **Matrix: Water** **Lab ID: 12083004-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Vinyl chloride	**150**	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:02	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:22	JKL
trans-1,2-Dichloroethene	**15**	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
cis-1,2-Dichloroethene	**600**	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:02	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Trichloroethene	**120**	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:02	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 8:22	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL

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Tetra Tech Inc.

Date Sampled: 08/30/12
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-DUP03-30 **Matrix: Water** **Lab ID: 12083004-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 8:22	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 8:22	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:22	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 9:15
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-13-35 **Matrix: Water** **Lab ID: 12083004-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Vinyl chloride	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Methylene chloride	ND	ug/L	300	EPA 8260B	08/30/12	08/30/12 18:31	JKL
trans-1,2-Dichloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
cis-1,2-Dichloroethene	**1,400**	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Trichloroethene	**6,100**	ug/L	400	EPA 8260B	08/31/12	08/31/12 17:44	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Toluene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/30/12	08/30/12 18:31	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 9:15
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-13-35 **Matrix: Water** **Lab ID: 12083004-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/30/12	08/30/12 18:31	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/30/12	08/30/12 18:31	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 18:31	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

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Date Sampled: 08/30/12 9:30
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-25 **Matrix: Water** **Lab ID: 12083004-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Vinyl chloride	**1**	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,1-Dichloroethene	**12**	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:51	JKL
trans-1,2-Dichloroethene	**12**	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
cis-1,2-Dichloroethene	**190**	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:01	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Trichloroethene	**180**	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:01	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 8:51	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 9:30
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-25 **Matrix: Water** **Lab ID: 12083004-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 8:51	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 8:51	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 8:51	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 9:35
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-13-40 **Matrix: Water** **Lab ID: 12083004-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Vinyl chloride	**120**	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 19:30	JKL
trans-1,2-Dichloroethene	**71**	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
cis-1,2-Dichloroethene	**7,000**	ug/L	400	EPA 8260B	08/31/12	08/31/12 18:14	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Trichloroethene	**9,600**	ug/L	400	EPA 8260B	08/31/12	08/31/12 18:14	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Toluene	**140**	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	08/30/12	08/30/12 19:30	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL

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Date Sampled: 08/30/12 9:35
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-13-40 **Matrix: Water** **Lab ID: 12083004-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/30/12	08/30/12 19:30	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/30/12	08/30/12 19:30	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/30/12	08/30/12 19:30	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 08/30/12 9:45
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Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-30 **Matrix: Water** **Lab ID: 12083004-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Vinyl chloride	**190**	ug/L	50	EPA 8260B	08/30/12	08/30/12 20:00	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 10:41	JKL
trans-1,2-Dichloroethene	**18**	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
cis-1,2-Dichloroethene	**640**	ug/L	50	EPA 8260B	08/30/12	08/30/12 20:00	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Trichloroethene	**130**	ug/L	50	EPA 8260B	08/30/12	08/30/12 20:00	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 10:41	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL

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Date Sampled: 08/30/12 9:45
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-30 **Matrix: Water** **Lab ID: 12083004-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 10:41	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 10:41	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 10:41	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 08/30/12 10:10
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CRT-13-45 **Matrix: Water** **Lab ID: 12083004-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Vinyl chloride	**21**	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Acetone	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Methylene chloride	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 11:11	JKL
trans-1,2-Dichloroethene	**14**	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
cis-1,2-Dichloroethene	**1,000**	ug/L	50	EPA 8260B	08/30/12	08/30/12 20:29	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Chloroform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Benzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Trichloroethene	**420**	ug/L	50	EPA 8260B	08/30/12	08/30/12 20:29	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Toluene	**40**	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Tetrachloroethene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 11:11	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 11:11	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 10:10
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CRT-13-45 **Matrix: Water** **Lab ID: 12083004-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Bromoform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 11:11	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 11:11	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:11	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 10:20
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-35 **Matrix: Water** **Lab ID: 12083004-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Vinyl chloride	**160**	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Acetone	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:40	JKL
trans-1,2-Dichloroethene	**14**	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
cis-1,2-Dichloroethene	**720**	ug/L	50	EPA 8260B	08/30/12	08/30/12 20:59	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Chloroform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Benzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Trichloroethene	**160**	ug/L	50	EPA 8260B	08/30/12	08/30/12 20:59	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Toluene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 11:40	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL

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Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-35 **Matrix: Water** **Lab ID: 12083004-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Bromoform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 11:40	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 11:40	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 11:40	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-13-50 **Matrix: Water** **Lab ID: 12083004-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Vinyl chloride	**16**	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Acetone	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:09	JKL
trans-1,2-Dichloroethene	**12**	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
cis-1,2-Dichloroethene	**620**	ug/L	50	EPA 8260B	08/30/12	08/30/12 21:29	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Chloroform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Benzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Trichloroethene	**230**	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Toluene	**41**	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 12:09	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-13-50 **Matrix: Water** **Lab ID: 12083004-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Bromoform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 12:09	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 12:09	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:09	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-40 **Matrix: Water** **Lab ID: 12083004-10**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Vinyl chloride	**3**	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:39	JKL
trans-1,2-Dichloroethene	**1**	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
cis-1,2-Dichloroethene	**25**	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Trichloroethene	**24**	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 12:39	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 10:45
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-40 **Matrix: Water** **Lab ID: 12083004-10**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:39	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 12:39	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 12:39	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

8851 Orchard Tree Lane Towson, Maryland 21286
tel: 410.825.1151 fax: 410.825.2126 www.caslabs.net

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 11:15
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-45 **Matrix: Water** **Lab ID: 12083004-11**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Vinyl chloride	**7**	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:08	JKL
trans-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
cis-1,2-Dichloroethene	**30**	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Trichloroethene	**35**	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 13:08	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 11:15
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-45 **Matrix: Water** **Lab ID: 12083004-11**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:08	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:08	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 13:08	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 11:25
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-13-55 **Matrix: Water** **Lab ID: 12083004-12**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Vinyl chloride	**26**	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Acetone	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:38	JKL
trans-1,2-Dichloroethene	**11**	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
cis-1,2-Dichloroethene	**730**	ug/L	50	EPA 8260B	08/30/12	08/30/12 22:57	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Chloroform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Benzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Trichloroethene	**190**	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Toluene	**53**	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 13:38	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 11:25
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-13-55 **Matrix: Water** **Lab ID: 12083004-12**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Bromoform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 13:38	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 13:38	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 13:38	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 13:00
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-50 **Matrix: Water** **Lab ID: 12083004-13**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Vinyl chloride	**4**	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:07	JKL
trans-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
cis-1,2-Dichloroethene	**36**	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Trichloroethene	**40**	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 14:07	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 13:00
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-50 **Matrix: Water** **Lab ID: 12083004-13**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:07	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:07	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 14:07	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 12:55
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-13-60 **Matrix: Water** **Lab ID: 12083004-14**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Vinyl chloride	**18**	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,1-Dichloroethene	**11**	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Acetone	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:37	JKL
trans-1,2-Dichloroethene	**11**	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
cis-1,2-Dichloroethene	**440**	ug/L	50	EPA 8260B	08/30/12	08/30/12 23:56	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Chloroform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Benzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Trichloroethene	**140**	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Toluene	**35**	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 14:37	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL

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Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-13-60 **Matrix: Water** **Lab ID: 12083004-14**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Bromoform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 14:37	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 14:37	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 14:37	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Date Sampled: 08/30/12 13:30
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-55 **Matrix: Water** **Lab ID: 12083004-15**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Vinyl chloride	**14**	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:07	JKL
trans-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
cis-1,2-Dichloroethene	**54**	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,2-Dichloroethane	**1**	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Trichloroethene	**62**	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 15:07	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL

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Date Sampled: 08/30/12 13:30
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-55 **Matrix: Water** **Lab ID: 12083004-15**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 15:07	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 15:07	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:07	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 14:00
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-60 **Matrix: Water** **Lab ID: 12083004-16**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Vinyl chloride	**13**	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:37	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
cis-1,2-Dichloroethene	**35**	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,2-Dichloroethane	**1**	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Trichloroethene	**46**	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 15:37	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL

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Certificate of Analysis

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Date Sampled: 08/30/12 14:00
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-14-60 **Matrix: Water** **Lab ID: 12083004-16**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 15:37	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 15:37	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/31/12	08/31/12 15:37	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Date Sampled: 08/30/12 14:40
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-16-20 **Matrix: Water** **Lab ID: 12083004-17**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Vinyl chloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Acetone	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:15	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
cis-1,2-Dichloroethene	**18**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Chloroform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Benzene	**37**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Trichloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Toluene	**7**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Chlorobenzene	**7**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Ethylbenzene	**21**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
m&p-Xylene	**220**	ug/L	100	EPA 8260B	08/31/12	08/31/12 1:24	JKL
o-Xylene	**26**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL

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Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-16-20 **Matrix: Water** **Lab ID: 12083004-17**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Bromoform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,4-Dichlorobenzene	9	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 16:15	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 16:15	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:15	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Certificate of Analysis

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Date Sampled: 08/30/12 15:00
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Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-16-25 **Matrix: Water** **Lab ID: 12083004-18**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Vinyl chloride	**23**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Acetone	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:45	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
cis-1,2-Dichloroethene	**160**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Chloroform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Benzene	**22**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Trichloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Toluene	**140**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Ethylbenzene	**120**	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
m&p-Xylene	**3,900**	ug/L	100	EPA 8260B	08/31/12	08/31/12 7:53	JKL
o-Xylene	**600**	ug/L	50	EPA 8260B	08/31/12	08/31/12 7:53	JKL

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Date Sampled: 08/30/12 15:00
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-16-25 **Matrix: Water** **Lab ID: 12083004-18**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Bromoform	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Isopropylbenzene	6	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 16:45	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	08/31/12	08/31/12 16:45	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	08/31/12	08/31/12 16:45	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Date Sampled: 08/30/12 15:15
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-16-30 **Matrix: Water** **Lab ID: 12083004-19**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Vinyl chloride	**2,100**	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Acetone	ND	ug/L	500	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	08/31/12	08/31/12 1:53	JKL
trans-1,2-Dichloroethene	**92**	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
cis-1,2-Dichloroethene	**9,100**	ug/L	400	EPA 8260B	08/31/12	08/31/12 18:43	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Chloroform	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Benzene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Trichloroethene	**1,900**	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Toluene	**290**	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Ethylbenzene	**250**	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
m&p-Xylene	**4,800**	ug/L	800	EPA 8260B	08/31/12	08/31/12 18:43	JKL
o-Xylene	**1000**	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12 15:15
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: DR-CPT-16-30 **Matrix: Water** **Lab ID: 12083004-19**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Bromoform	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	08/31/12	08/31/12 1:53	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	08/31/12	08/31/12 1:53	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	08/31/12	08/31/12 1:53	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: TB-083012 **Matrix: Water** **Lab ID: 12083004-20**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Acetone	ND	ug/L	10	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 17:02	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
cis-1,2-Dichloroethene	ND	ug/L	2	EPA 8260B	08/30/12	08/30/12 17:02	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Chloroform	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Benzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Toluene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	08/30/12	08/30/12 17:02	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 08/30/12
Date Received: 08/30/12 15:30
Date Issued: 09/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12083004

Field Sample ID: TB-083012 **Matrix: Water** **Lab ID: 12083004-20**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Bromoform	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	08/30/12	08/30/12 17:02	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	08/30/12	08/30/12 17:02	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	08/30/12	08/30/12 17:02	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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CALIBER ANALYTICAL SERVICES

8851 Orchard Tree Lane Towson, MD 21286
Phone: 410.825.1151
Fax: 410.825.2126
www.caslabs.net

Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	12083004
Sampled by:	
PO Number:	

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Matrix *	Preservative	Analysis Requested: VOCs by 8260B	Sampling Remarks/ Comments
	DR-CPT-DUP02-40	8-30-12	0000	3	GW		√	
	DR-CPT-DUP03-30	"	0000	3	GW		√	
	DR-CPT-13-35	"	0915	3	GW		√	
	DR-CPT-14-25	"	0930	3	GW		√	
	DR-CPT-13-40	"	0935	3	GW		√	
	DR-CPT-14-30	"	0945	3	GW		√	
	DR-CPT-13-45	"	1010	3	GW		√	
	DR-CPT-14-35	"	1020	3	GW		√	
	DR-CPT-13-50	"	1030	3	GW		√	
	DR-CPT-14-40	"	1045	3	GW		√	

Relinquished by:		Date/Time:	8-30-12/1530
Received by:		Date/Time:	8/30/12 1530
Relinquished by:		Date/Time:	
Received by:		Date/Time:	
Relinquished by:		Date/Time:	
Received by:		Date/Time:	

Deliverables: I II III CLP EDD

Receipt Temperature: Temp:____ (On Ice)

Turnaround Time: STD (Next Day) 2 Day Other____

Custody Seals: Sample (Cooler) Delivered by client (CAS Courier)

Comments/Special Instructions:

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

8851 Orchard Tree Lane Towson, MD 21286
Phone: 410.825.1151
Fax: 410.825.2126
www.caslabs.net

Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	1208304
Sampled by:	
PO Number:	

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B										Sampling Remarks/ Comments
	DR-CPT-14-45	8-30-12	1115	3	GW	√										
	DR-CPT-13-55	↓	1125	3	GW	√										
	DR-CPT-14-50		1300	3	GW	√										
	DR-CPT-13-60		1255	3	GW	√										
	DR-CPT-14-55		1330	3	GW	√										
	DR-CPT-14-60		1400	3	GW	√										
	DR-CPT-16-20		1440	3	GW	√										
	DR-CPT-16-25		1500	3	GW	√										
	DR-CPT-16-30	↓	1515	3	GW	√										
	TB-083012		—	3	GW	√										

Relinquished by:		Date/Time:	8-30-12/1530
Received by:		Date/Time:	8/30/12 1530
Relinquished by:		Date/Time:	
Received by:		Date/Time:	
Relinquished by:		Date/Time:	
Received by:		Date/Time:	

Deliverables: I II III CLP EDD

Custody Seals: Sample (Cooler) Delivered by client (CAS Courier)

Receipt Temperature: Temp:____ (On Ice)

Turnaround Time: STD (Next Day) 2 Day Other____

Comments/Special Instructions:

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 10:00
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-09-35 **Matrix: Water** **Lab ID: 12090404-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Vinyl chloride	**1,800**	ug/L	50	EPA 8260B	09/04/12	09/04/12 19:18	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 1:51	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
cis-1,2-Dichloroethene	**430**	ug/L	50	EPA 8260B	09/04/12	09/04/12 19:18	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Benzene	**8**	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,2-Dichloroethane	**7**	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Trichloroethene	**83**	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Toluene	**10**	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 1:51	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 10:00
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-09-35 **Matrix: Water** **Lab ID: 12090404-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 1:51	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 1:51	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 1:51	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 10:05
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-20 **Matrix: Water** **Lab ID: 12090404-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Vinyl chloride	**710**	ug/L	50	EPA 8260B	09/04/12	09/04/12 19:42	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:16	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
cis-1,2-Dichloroethene	**58**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Cyclohexane	**39**	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Benzene	**220**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,2-Dichloroethane	**36**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Trichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Toluene	**770**	ug/L	50	EPA 8260B	09/04/12	09/04/12 19:42	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,1,2-Trichloroethane	**11**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Chlorobenzene	**42**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Ethylbenzene	**510**	ug/L	50	EPA 8260B	09/04/12	09/04/12 19:42	JKL
m&p-Xylene	**4,300**	ug/L	100	EPA 8260B	09/04/12	09/04/12 19:42	JKL
o-Xylene	**170**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 10:05
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-20 **Matrix: Water** **Lab ID: 12090404-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Isopropylbenzene	**6**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 2:16	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 2:16	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:16	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Tetra Tech Inc.

Date Sampled: 09/04/12 10:28
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-25 **Matrix: Water** **Lab ID: 12090404-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Vinyl chloride	**26**	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Methylene chloride	ND	ug/L	30	EPA 8260B	09/05/12	09/05/12 8:48	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
cis-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Cyclohexane	**40**	ug/L	25	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Benzene	**190**	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,2-Dichloroethane	**46**	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Trichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Methylcyclohexane	**26**	ug/L	25	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Toluene	**710**	ug/L	50	EPA 8260B	09/04/12	09/04/12 20:07	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,1,2-Trichloroethane	**18**	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Chlorobenzene	**16**	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Ethylbenzene	**1,000**	ug/L	50	EPA 8260B	09/04/12	09/04/12 20:07	JKL
m&p-Xylene	**5,600**	ug/L	100	EPA 8260B	09/04/12	09/04/12 20:07	JKL
o-Xylene	**80**	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL

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Certificate of Analysis

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Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-25 **Matrix: Water** **Lab ID: 12090404-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Isopropylbenzene	9	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 8:48	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 8:48	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 8:48	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/04/12 10:35
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-09-40 **Matrix: Water** **Lab ID: 12090404-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Vinyl chloride	**180**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:41	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
cis-1,2-Dichloroethene	**60**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Benzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Trichloroethene	**12**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Toluene	**31**	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
m&p-Xylene	**16**	ug/L	10	EPA 8260B	09/05/12	09/05/12 2:41	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 10:35
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-09-40 **Matrix: Water** **Lab ID: 12090404-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 2:41	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 2:41	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 2:41	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

8851 Orchard Tree Lane Towson, Maryland 21286
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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 11:10
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-30 **Matrix: Water** **Lab ID: 12090404-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Vinyl chloride	**12**	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:05	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
cis-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Benzene	**7**	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Trichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Toluene	**11**	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Ethylbenzene	**12**	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
m&p-Xylene	**100**	ug/L	10	EPA 8260B	09/05/12	09/05/12 3:05	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 11:10
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-30 **Matrix: Water** **Lab ID: 12090404-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 3:05	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 3:05	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:05	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 11:18
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-09-45 **Matrix: Water** **Lab ID: 12090404-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Vinyl chloride	**980**	ug/L	50	EPA 8260B	09/04/12	09/04/12 21:20	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:30	JKL
trans-1,2-Dichloroethene	**13**	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
cis-1,2-Dichloroethene	**1,600**	ug/L	50	EPA 8260B	09/04/12	09/04/12 21:20	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Benzene	**6**	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,2-Dichloroethane	**8**	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Trichloroethene	**720**	ug/L	50	EPA 8260B	09/04/12	09/04/12 21:20	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Toluene	**57**	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 3:30	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 11:18
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-09-45 **Matrix: Water** **Lab ID: 12090404-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 3:30	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 3:30	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:30	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 11:33
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-35 **Matrix: Water** **Lab ID: 12090404-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Vinyl chloride	**44**	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 3:55	JKL
trans-1,2-Dichloroethene	**1**	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
cis-1,2-Dichloroethene	**77**	ug/L	50	EPA 8260B	09/04/12	09/04/12 21:45	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Benzene	**11**	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,2-Dichloroethane	**2**	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Trichloroethene	**9**	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Toluene	**3**	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	09/05/12	09/05/12 3:55	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Ethylbenzene	**1**	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
m&p-Xylene	**10**	ug/L	2	EPA 8260B	09/05/12	09/05/12 3:55	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 11:33
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-35 **Matrix: Water** **Lab ID: 12090404-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:55	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 3:55	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 3:55	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 12:00
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-09-50 **Matrix: Water** **Lab ID: 12090404-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Vinyl chloride	**2,100**	ug/L	400	EPA 8260B	09/05/12	09/05/12 7:58	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Acetone	ND	ug/L	500	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:09	JKL
trans-1,2-Dichloroethene	**67**	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
cis-1,2-Dichloroethene	**5,900**	ug/L	400	EPA 8260B	09/05/12	09/05/12 7:58	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Chloroform	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Benzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Trichloroethene	**4,200**	ug/L	400	EPA 8260B	09/05/12	09/05/12 7:58	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Toluene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	09/04/12	09/04/12 22:09	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 12:00
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-09-50 **Matrix: Water** **Lab ID: 12090404-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Bromoform	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	09/04/12	09/04/12 22:09	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	09/04/12	09/04/12 22:09	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:09	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-DUP04-50 **Matrix: Water** **Lab ID: 12090404-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Vinyl chloride	**2,000**	ug/L	400	EPA 8260B	09/05/12	09/05/12 8:24	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Acetone	ND	ug/L	500	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:34	JKL
trans-1,2-Dichloroethene	**72**	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
cis-1,2-Dichloroethene	**5,900**	ug/L	400	EPA 8260B	09/05/12	09/05/12 8:24	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Chloroform	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Benzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Trichloroethene	**4,500**	ug/L	400	EPA 8260B	09/05/12	09/05/12 8:24	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Toluene	**51**	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	09/04/12	09/04/12 22:34	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-DUP04-50 **Matrix: Water** **Lab ID: 12090404-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Bromoform	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	09/04/12	09/04/12 22:34	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	09/04/12	09/04/12 22:34	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:34	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 14:00
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-09-55 **Matrix: Water** **Lab ID: 12090404-10**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Vinyl chloride	**780**	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:59	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 4:20	JKL
trans-1,2-Dichloroethene	**11**	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
cis-1,2-Dichloroethene	**1,100**	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:59	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Benzene	**15**	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,2-Dichloroethane	**15**	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Trichloroethene	**440**	ug/L	50	EPA 8260B	09/04/12	09/04/12 22:59	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Toluene	**82**	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 4:20	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 14:00
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-09-55 **Matrix: Water** **Lab ID: 12090404-10**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 4:20	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 4:20	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 4:20	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 14:25
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-40 **Matrix: Water** **Lab ID: 12090404-11**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Vinyl chloride	**1,600**	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Acetone	ND	ug/L	500	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 23:23	JKL
trans-1,2-Dichloroethene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
cis-1,2-Dichloroethene	**6,100**	ug/L	400	EPA 8260B	09/05/12	09/05/12 9:13	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Chloroform	**66**	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Benzene	**59**	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Trichloroethene	**920**	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Toluene	**110**	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	09/04/12	09/04/12 23:23	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 14:25
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-40 **Matrix: Water** **Lab ID: 12090404-11**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Bromoform	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	09/04/12	09/04/12 23:23	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	09/04/12	09/04/12 23:23	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:23	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 14:50
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-45 **Matrix: Water** **Lab ID: 12090404-12**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Vinyl chloride	**310**	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:48	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 6:43	JKL
trans-1,2-Dichloroethene	**11**	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
cis-1,2-Dichloroethene	**530**	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:48	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Chloroform	**29**	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Benzene	**9**	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,2-Dichloroethane	**20**	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Trichloroethene	**560**	ug/L	50	EPA 8260B	09/04/12	09/04/12 23:48	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Toluene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 6:43	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL

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Certificate of Analysis

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Date Sampled: 09/04/12 14:50
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-45 **Matrix: Water** **Lab ID: 12090404-12**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 6:43	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 6:43	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 6:43	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

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Date Sampled: 09/04/12
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: TB-090412 **Matrix: Water** **Lab ID: 12090404-13**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/04/12	09/04/12 18:53	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/04/12	09/04/12 18:53	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: TB-090412 **Matrix: Water** **Lab ID: 12090404-13**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/04/12	09/04/12 18:53	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/04/12	09/04/12 18:53	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/04/12	09/04/12 18:53	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 15:10
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-50 **Matrix: Water** **Lab ID: 12090404-14**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Vinyl chloride	**91**	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:08	JKL
trans-1,2-Dichloroethene	**11**	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
cis-1,2-Dichloroethene	**680**	ug/L	50	EPA 8260B	09/05/12	09/05/12 0:13	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Chloroform	**79**	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Benzene	**6**	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,2-Dichloroethane	**32**	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Trichloroethene	**1,700**	ug/L	50	EPA 8260B	09/05/12	09/05/12 0:13	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Toluene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,1,2-Trichloroethane	**8**	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 7:08	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12 15:10
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-19-50 **Matrix: Water** **Lab ID: 12090404-14**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 7:08	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 7:08	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:08	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-DUP05-45 **Matrix: Water** **Lab ID: 12090404-15**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Vinyl chloride	**270**	ug/L	50	EPA 8260B	09/05/12	09/05/12 0:37	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:33	JKL
trans-1,2-Dichloroethene	**11**	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
cis-1,2-Dichloroethene	**490**	ug/L	50	EPA 8260B	09/05/12	09/05/12 0:37	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Chloroform	**28**	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Benzene	**10**	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,2-Dichloroethane	**20**	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Trichloroethene	**540**	ug/L	50	EPA 8260B	09/05/12	09/05/12 0:37	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Toluene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 7:33	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/04/12
Date Received: 09/04/12 15:50
Date Issued: 09/05/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090404

Field Sample ID: DR-CPT-DUP05-45 **Matrix: Water** **Lab ID: 12090404-15**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 7:33	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/05/12	09/05/12 7:33	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 7:33	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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CALIBER ANALYTICAL SERVICES

8851 Orchard Tree Lane Towson, MD 21286
Phone: 410.825.1151
Fax: 410.825.2126
www.caslabs.net

Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	120904/04
Sampled by:	S Cannon
PO Number:	

Page 1 of 2

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Matrix *	Preservative	VOCs by 8260B									Sampling Remarks/ Comments
	DR-CPT-09-35	9-4-12	1000	3	GW		√									
	DR-CPT-19-20		1005	3	GW		√									Slight Odor
	DR-CPT-19-25		1028	3	GW		√									Slight Odor
	DR-CPT-09-40		1035	3	GW		√									
	DR-CPT-19-30		1110	3	GW		√									Slight odor
	DR-CPT-09-45		1118	3	GW		√									
	DR-CPT-19-35		1133	3	GW		√									Slight Odor
	DR-CPT-09-50		1200	3	GW		√									
	DR-CPT-[redacted]Dup04-12		0000	3	GW		√									
	DR-CPT-09-55		1400	3	GW		√									

Relinquished by:		**Date/Time:**	9/4/12-1530	**Deliverables:**	**Receipt Temperature:**	**Turnaround Time:**
Received by:		**Date/Time:**	9/4/12 1550	I II III CLP EDD	Temp:____ (On Ice)	STD (Next Day) 2 Day Other____
Relinquished by:		**Date/Time:**		**Custody Seals:**	**Comments/Special Instructions:**	
Received by:		**Date/Time:**		Sample (Cooler)		
Relinquished by:		**Date/Time:**		Delivered by client		
Received by:		**Date/Time:**		(CAS Courier)		

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

8851 Orchard Tree Lane Towson, MD 21286
Phone: 410.825.1151
Fax: 410.825.2126
www.caslabs.net

Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	120904C4
Sampled by:	S. Cameron
PO Number:	

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B									Sampling Remarks/ Comments
	DR-CPT-19-40	9-4-12	1425	3	GW	√									Slight Odor
	DR-CPT-19-45	9-4-12	1450	3	GW	√									
	TB-090412	—	—	2	GW	√									
	DR-CPT-19-50	9-4-12	1510	3	GW	√									
	DR-CPT-DUP05-45	9-4-12		3	GW	√									
				3	GW	√									
				3	GW	√									
				3	GW	√									
				3	GW	√									
				3	GW	√									

Relinquished by:		**Date/Time:**	9/4/12-1530	**Deliverables:**	**Receipt Temperature:**	**Turnaround Time:**
Received by:		**Date/Time:**	9/4/12 1550	I II III CLP EDD	Temp:____ (On Ice)	STD (Next Day) 2 Day Other____
Relinquished by:		**Date/Time:**		**Custody Seals:**	**Comments/Special Instructions:**	
Received by:		**Date/Time:**		Sample (Cooler)		
Relinquished by:		**Date/Time:**		Delivered by client		
Received by:		**Date/Time:**		(CAS Courier)		

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: TB-090512 **Matrix: Water** **Lab ID: 12090502-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 18:25	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/05/12	09/05/12 18:25	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: TB-090512 **Matrix: Water** **Lab ID: 12090502-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 18:25	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/05/12	09/05/12 18:25	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/05/12	09/05/12 18:25	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/05/12
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-DUP05-25 **Matrix: Water** **Lab ID: 12090502-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Vinyl chloride	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:19	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
cis-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Benzene	**1**	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,2-Dichloroethane	**1**	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Trichloroethene	**1**	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 1:19	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL

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Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-DUP05-25 **Matrix: Water** **Lab ID: 12090502-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 1:19	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 1:19	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:19	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/05/12 9:50
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-20 **Matrix: Water** **Lab ID: 12090502-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Methylene chloride	ND	ug/L	6	EPA 8260B	09/06/12	09/06/12 1:43	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Benzene	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 1:43	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL

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Date Sampled: 09/05/12 9:50
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-20 **Matrix: Water** **Lab ID: 12090502-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 1:43	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 1:43	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 1:43	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

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Date Sampled: 09/05/12 10:25
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-21-25 **Matrix: Water** **Lab ID: 12090502-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Vinyl chloride	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:07	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
cis-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Benzene	**1**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,2-Dichloroethane	**1**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Trichloroethene	**1**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Toluene	**1**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 2:07	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12 10:25
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-21-25 **Matrix: Water** **Lab ID: 12090502-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:07	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:07	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:07	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/05/12 11:00
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-25 **Matrix: Water** **Lab ID: 12090502-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Vinyl chloride	**73**	ug/L	50	EPA 8260B	09/05/12	09/05/12 20:05	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:32	JKL
trans-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
cis-1,2-Dichloroethene	**160**	ug/L	50	EPA 8260B	09/05/12	09/05/12 20:05	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Benzene	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Trichloroethene	**52**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Toluene	**1**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Chlorobenzene	**4**	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 2:32	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL

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Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-25 **Matrix: Water** **Lab ID: 12090502-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:32	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:32	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 2:32	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/05/12 11:30
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Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-30 **Matrix: Water** **Lab ID: 12090502-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Vinyl chloride	**1,800**	ug/L	50	EPA 8260B	09/05/12	09/05/12 20:29	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:56	JKL
trans-1,2-Dichloroethene	**55**	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
cis-1,2-Dichloroethene	**4,200**	ug/L	50	EPA 8260B	09/05/12	09/05/12 20:29	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Benzene	**10**	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Trichloroethene	**1,200**	ug/L	50	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/05/12	09/05/12 20:29	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Toluene	**27**	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Chlorobenzene	**47**	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Ethylbenzene	**16**	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 2:56	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL

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Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-30 **Matrix: Water** **Lab ID: 12090502-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/06/12	09/06/12 2:56	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/06/12	09/06/12 2:56	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 2:56	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Certificate of Analysis

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Date Sampled: 09/05/12 11:40
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-21-30 **Matrix: Water** **Lab ID: 12090502-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Vinyl chloride	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 3:20	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
cis-1,2-Dichloroethene	**4**	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,2-Dichloroethane	**6**	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Trichloroethene	**1**	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 3:20	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 3:20	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12 11:40
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-21-30 **Matrix: Water** **Lab ID: 12090502-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:20	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:20	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 3:20	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12 12:30
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-35 **Matrix: Water** **Lab ID: 12090502-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Vinyl chloride	**3,100**	ug/L	50	EPA 8260B	09/05/12	09/05/12 21:18	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:44	JKL
trans-1,2-Dichloroethene	**11**	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
cis-1,2-Dichloroethene	**2,600**	ug/L	50	EPA 8260B	09/05/12	09/05/12 21:18	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Benzene	**17**	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Trichloroethene	**6**	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Toluene	**13**	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Chlorobenzene	**17**	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 3:44	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL

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Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-35 **Matrix: Water** **Lab ID: 12090502-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/06/12	09/06/12 3:44	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/06/12	09/06/12 3:44	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 3:44	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/05/12 12:05
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-21-35 **Matrix: Water** **Lab ID: 12090502-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Vinyl chloride	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Acetone	ND	ug/L	15	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:08	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
cis-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,2-Dichloroethane	**4**	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 4:08	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL

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Date Sampled: 09/05/12 12:05
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-21-35 **Matrix: Water** **Lab ID: 12090502-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:08	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:08	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:08	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

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Date Sampled: 09/05/12 14:10
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-40 **Matrix: Water** **Lab ID: 12090502-10**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Vinyl chloride	**210**	ug/L	50	EPA 8260B	09/05/12	09/05/12 22:06	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:33	JKL
trans-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
cis-1,2-Dichloroethene	**130**	ug/L	50	EPA 8260B	09/05/12	09/05/12 22:06	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Benzene	**5**	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Trichloroethene	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Toluene	**3**	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Chlorobenzene	**2**	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 4:33	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL

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Tetra Tech Inc.

Date Sampled: 09/05/12 14:10
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-40 **Matrix: Water** **Lab ID: 12090502-10**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:33	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:33	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 4:33	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 09/05/12 14:30
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-45 **Matrix: Water** **Lab ID: 12090502-11**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Vinyl chloride	**670**	ug/L	50	EPA 8260B	09/05/12	09/05/12 22:30	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:57	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
cis-1,2-Dichloroethene	**230**	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Benzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Trichloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Toluene	**8**	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Chlorobenzene	**25**	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 4:57	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL

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Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-45 **Matrix: Water** **Lab ID: 12090502-11**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/06/12	09/06/12 4:57	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/06/12	09/06/12 4:57	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 4:57	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/05/12 14:20
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Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-21-40 **Matrix: Water** **Lab ID: 12090502-12**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Acetone	ND	ug/L	15	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 5:21	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 5:21	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL

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Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-21-40 **Matrix: Water** **Lab ID: 12090502-12**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 5:21	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 5:21	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 5:21	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 09/05/12 15:15
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-21-45 **Matrix: Water** **Lab ID: 12090502-13**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:03	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 7:03	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12 15:15
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-21-45 **Matrix: Water** **Lab ID: 12090502-13**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:03	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:03	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 7:03	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12 15:30
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-50 **Matrix: Water** **Lab ID: 12090502-14**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Vinyl chloride	**980**	ug/L	50	EPA 8260B	09/05/12	09/05/12 23:42	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:27	JKL
trans-1,2-Dichloroethene	**8**	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
cis-1,2-Dichloroethene	**620**	ug/L	50	EPA 8260B	09/05/12	09/05/12 23:42	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Benzene	**5**	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Trichloroethene	**21**	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Toluene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Chlorobenzene	**60**	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 7:27	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL

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Date Sampled: 09/05/12 15:30
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-50 **Matrix: Water** **Lab ID: 12090502-14**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/06/12	09/06/12 7:27	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/06/12	09/06/12 7:27	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:27	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 09/05/12 15:40
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-55 **Matrix: Water** **Lab ID: 12090502-15**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Vinyl chloride	**910**	ug/L	50	EPA 8260B	09/06/12	09/06/12 0:06	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:51	JKL
trans-1,2-Dichloroethene	**7**	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
cis-1,2-Dichloroethene	**690**	ug/L	50	EPA 8260B	09/06/12	09/06/12 0:06	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Benzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,2-Dichloroethane	**23**	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Trichloroethene	**74**	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Toluene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Chlorobenzene	**43**	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 7:51	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12 15:40
Date Received: 09/05/12 15:45
Date Issued: 09/06/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090502

Field Sample ID: DR-CPT-20-55 **Matrix: Water** **Lab ID: 12090502-15**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/06/12	09/06/12 7:51	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/06/12	09/06/12 7:51	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 7:51	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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CALIBER ANALYTICAL SERVICES

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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	12090502
Sampled by:	WMP, SJC
PO Number:	

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Matrix *	Preservative	VOCs by 8260B										Sampling Remarks/ Comments
	TB-090512	9-5-12		2	GW		√										
	DR-CPT-DUP05-25		—	3	GW		√										
	DR-CPT-20-20		0950	3	GW		√										
	DR-CPT-21-25		1025	3	GW		√										
	DR-CPT-20-25		1100	3	GW		√										
	DR-CPT-20-30		1130	3	GW		√										
	DR-CPT-21-30		1140	3	GW		√										
	DR-CPT-20-35		1230	3	GW		√										
	DR-CPT-21-35		1405	3	GW		√										
	DR-CPT-20-40		1410	3	GW		√										

Relinquished by:		Date/Time:	9-5-12 / 1557
Received by:		Date/Time:	9/5/12 1545
Relinquished by:		Date/Time:	
Received by:		Date/Time:	
Relinquished by:		Date/Time:	
Received by:		Date/Time:	

Deliverables: I II III CLP EDD

Custody Seals: Sample (Cooler) Delivered by client (CAS Courier)

Receipt Temperature: Temp:____ (On Ice)

Turnaround Time: STD (Next Day 2 Day Other____

Comments/Special Instructions:

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	1209502
Sampled by:	
PO Number:	

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B										Sampling Remarks/ Comments
	DR-CPT-20-45	9-5-12	1430	3	GW	√										
	DR-CPT-21-40	"	1420	3	GW	√										
	DR-CPT-21-45	"	1515	3	GW	√										
	DR-CPT-20-50	"	1530	3	GW	√										
	DR-CPT-20-55	"	1540	3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										

Relinquished by:		Date/Time:	9-5-12 / 1537	Deliverables:	Receipt Temperature:	Turnaround Time:
Received by:		Date/Time:	9/5/12 1545	I II III CLP EDD	Temp:____ (On Ice)	STD (Next Day) 2 Day Other____
Relinquished by:		Date/Time:		Custody Seals:	Comments/Special Instructions:	
Received by:		Date/Time:		Sample (Cooler)		
Relinquished by:		Date/Time:		Delivered by client		
Received by:		Date/Time:		(CAS Courier)		

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12
Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: TB-090612 **Matrix: Water** **Lab ID: 12090609-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 23:22	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 23:22	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12
Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: TB-090612 **Matrix: Water** **Lab ID: 12090609-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 23:22	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/06/12	09/06/12 23:22	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/06/12	09/06/12 23:22	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: 
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12 15:55
Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-21-50 **Matrix: Water** **Lab ID: 12090609-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 2:58	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 2:58	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/05/12 15:55
Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-21-50 **Matrix: Water** **Lab ID: 12090609-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 2:58	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 2:58	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 2:58	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/06/12 9:50
Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-22-20 **Matrix: Water** **Lab ID: 12090609-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Vinyl chloride	**77**	ug/L	50	EPA 8260B	09/07/12	09/07/12 0:10	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Methylene chloride	ND	ug/L	6	EPA 8260B	09/07/12	09/07/12 3:22	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
cis-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Benzene	**3**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Toluene	**17**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Ethylbenzene	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
m&p-Xylene	**11**	ug/L	2	EPA 8260B	09/07/12	09/07/12 3:22	JKL
o-Xylene	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL

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Date Sampled: 09/06/12 9:50
Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-22-20 **Matrix: Water** **Lab ID: 12090609-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 3:22	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 3:22	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:22	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/06/12 10:55
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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-22-30 **Matrix: Water** **Lab ID: 12090609-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Vinyl chloride	**56**	ug/L	50	EPA 8260B	09/07/12	09/07/12 0:33	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:46	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
cis-1,2-Dichloroethene	**9**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Benzene	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Trichloroethene	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Toluene	**10**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Chlorobenzene	**1**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Ethylbenzene	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
m&p-Xylene	**9**	ug/L	2	EPA 8260B	09/07/12	09/07/12 3:46	JKL
o-Xylene	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL

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Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-22-30 **Matrix: Water** **Lab ID: 12090609-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 3:46	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 3:46	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 3:46	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/06/12 12:00
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Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-22-35 **Matrix: Water** **Lab ID: 12090609-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Vinyl chloride	**62**	ug/L	50	EPA 8260B	09/07/12	09/07/12 0:57	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:10	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,1-Dichloroethane	**1**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
cis-1,2-Dichloroethene	**12**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Benzene	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,2-Dichloroethane	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Trichloroethene	**11**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Toluene	**12**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Chlorobenzene	**1**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Ethylbenzene	**6**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
m&p-Xylene	**19**	ug/L	2	EPA 8260B	09/07/12	09/07/12 4:10	JKL
o-Xylene	**6**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL

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Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-22-35 **Matrix: Water** **Lab ID: 12090609-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 4:10	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 4:10	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:10	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/06/12 14:25
Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-22-40 **Matrix: Water** **Lab ID: 12090609-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Vinyl chloride	**55**	ug/L	50	EPA 8260B	09/07/12	09/07/12 1:21	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:34	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
cis-1,2-Dichloroethene	**6**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,2-Dichloroethane	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Trichloroethene	**140**	ug/L	50	EPA 8260B	09/07/12	09/07/12 1:21	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Toluene	**11**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Ethylbenzene	**1**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
m&p-Xylene	**5**	ug/L	2	EPA 8260B	09/07/12	09/07/12 4:34	JKL
o-Xylene	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/06/12 14:25
Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-22-40 **Matrix: Water** **Lab ID: 12090609-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 4:34	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 4:34	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:34	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/06/12
Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-DUP06-30 **Matrix: Water** **Lab ID: 12090609-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Vinyl chloride	**53**	ug/L	50	EPA 8260B	09/07/12	09/07/12 1:46	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 4:58	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
cis-1,2-Dichloroethene	**9**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Benzene	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Trichloroethene	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Toluene	**8**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 4:58	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Chlorobenzene	**1**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Ethylbenzene	**3**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
m&p-Xylene	**10**	ug/L	2	EPA 8260B	09/07/12	09/07/12 4:58	JKL
o-Xylene	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/06/12
Date Received: 09/06/12 15:30
Date Issued: 09/07/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090609

Field Sample ID: DR-CPT-DUP06-30 **Matrix: Water** **Lab ID: 12090609-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 4:58	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 4:58	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 4:58	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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CALIBER ANALYTICAL SERVICES

8851 Orchard Tree Lane Towson, MD 21286
Phone: 410.825.1151
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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	12090609
Sampled by:	
PO Number:	

Page 1 of 1

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B									Sampling Remarks/ Comments
	TB-090612	—	—	2	GW	√									
	DR-CPT-21-50	9-5-12	1555	3	GW	√									
	DR-CPT-22-20	9-6-12	0850	3	GW	√									
	DR-CPT-22-30		1055	3	GW	√									
	DR-CPT-22-35		1200	3	GW	√									
	DR-CPT-22-40		1425	3	GW	√									
	~~DR-CPT-22-45~~			3	GW	√									
	DR-CPT-DUP06-30		0000	3	GW	√									
				3	GW	√									
				3	GW	√									

Relinquished by:		**Date/Time:**	9-6-12/1580	**Deliverables:**	**Receipt Temperature:**	**Turnaround Time:**
Received by:		**Date/Time:**	9/6/12 1530	I II III CLP EDD	Temp:____ (On Ice)	STD (Next Day) 2 Day Other____
Relinquished by:		**Date/Time:**		**Custody Seals:**	**Comments/Special Instructions:**	
Received by:		**Date/Time:**		Sample (Cooler)		
Relinquished by:		**Date/Time:**		Delivered by client		
Received by:		**Date/Time:**		(CAS Courier)		

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/07/12
Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: TB-090712 **Matrix: Water** **Lab ID: 12090707-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 17:55	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 17:55	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/07/12
Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: TB-090712 **Matrix: Water** **Lab ID: 12090707-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 17:55	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 17:55	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 17:55	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/07/12
Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-DUP07-15 **Matrix: Water** **Lab ID: 12090707-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Vinyl chloride	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:20	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
cis-1,2-Dichloroethene	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
m&p-Xylene	**7**	ug/L	2	EPA 8260B	09/07/12	09/07/12 22:20	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL

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Date Sampled: 09/07/12
Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-DUP07-15 **Matrix: Water** **Lab ID: 12090707-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 22:20	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 22:20	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:20	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/07/12 9:10
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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-15 **Matrix: Water** **Lab ID: 12090707-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Vinyl chloride	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Methylene chloride	ND	ug/L	6	EPA 8260B	09/07/12	09/07/12 22:45	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
cis-1,2-Dichloroethene	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
m&p-Xylene	**6**	ug/L	2	EPA 8260B	09/07/12	09/07/12 22:45	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL

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Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-15 **Matrix: Water** **Lab ID: 12090707-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 22:45	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 22:45	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 22:45	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/07/12 10:10
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Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-20 **Matrix: Water** **Lab ID: 12090707-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Vinyl chloride	**3**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:08	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
cis-1,2-Dichloroethene	**1**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Benzene	**3**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 23:08	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL

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Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-20 **Matrix: Water** **Lab ID: 12090707-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 23:08	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 23:08	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:08	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/07/12 11:05
Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-25 **Matrix: Water** **Lab ID: 12090707-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Vinyl chloride	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:33	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
cis-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Benzene	**7**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,2-Dichloroethane	**3**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 23:33	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL

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Tetra Tech Inc.

Date Sampled: 09/07/12 11:05
Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-25 **Matrix: Water** **Lab ID: 12090707-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 23:33	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 23:33	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:33	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-30 **Matrix: Water** **Lab ID: 12090707-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Vinyl chloride	**48**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:56	JKL
trans-1,2-Dichloroethene	**1**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
cis-1,2-Dichloroethene	**420**	ug/L	50	EPA 8260B	09/07/12	09/07/12 19:57	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Chloroform	**4**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Benzene	**7**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,2-Dichloroethane	**2**	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Trichloroethene	**160**	ug/L	50	EPA 8260B	09/07/12	09/07/12 19:57	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
m&p-Xylene	**2**	ug/L	2	EPA 8260B	09/07/12	09/07/12 23:56	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL

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Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-30 **Matrix: Water** **Lab ID: 12090707-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 23:56	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/07/12	09/07/12 23:56	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/07/12	09/07/12 23:56	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/07/12 13:55
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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-35 **Matrix: Water** **Lab ID: 12090707-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	09/08/12	09/08/12 0:44	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
cis-1,2-Dichloroethene	**13**	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Trichloroethene	**4**	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	09/08/12	09/08/12 0:44	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/08/12	09/08/12 0:44	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL

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Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-35 **Matrix: Water** **Lab ID: 12090707-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/08/12	09/08/12 0:44	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/08/12	09/08/12 0:44	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 0:44	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 09/07/12 14:30
Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-40 **Matrix: Water** **Lab ID: 12090707-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:09	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
cis-1,2-Dichloroethene	1	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/08/12	09/08/12 1:09	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/07/12 14:30
Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-40 **Matrix: Water** **Lab ID: 12090707-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/08/12	09/08/12 1:09	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/08/12	09/08/12 1:09	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:09	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/07/12 15:20
Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-45 **Matrix: Water** **Lab ID: 12090707-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Acetone	ND	ug/L	15	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:33	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/08/12	09/08/12 1:33	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/07/12 15:20
Date Received: 09/07/12 15:45
Date Issued: 09/10/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12090707

Field Sample ID: DR-CPT-17-45 **Matrix: Water** **Lab ID: 12090707-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/08/12	09/08/12 1:33	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/08/12	09/08/12 1:33	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/08/12	09/08/12 1:33	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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CALIBER ANALYTICAL SERVICES

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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	120907O7
Sampled by:	
PO Number:	

Page 1 of 1

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B										Sampling Remarks/ Comments
	TB-090712	—	—	2	GW	√										
	DR-CPT-DUP07-15	9-7-12	0000	3	GW	√										
	DR-CPT-17-15	↓	0940	3	GW	√										
	DR-CPT-17-20		1010	3	GW	√										
	DR-CPT-17-25		1105	3	GW	√										
	DR-CPT-17-30		1135	3	GW	√										
	DR-CPT-17-35		1355	3	GW	√										
	DR-CPT-17-40		1430	3	GW	√										
	DR-CPT-17-45	↓	1520	3	GW	√										
				3	GW	√										

Relinquished by:		Date/Time:	9-7-12 / 1545	Deliverables:	Receipt Temperature: / Turnaround Time:
Received by:		Date/Time:	9/7/12 1545	I II III CLP EDD	Temp:____ (On Ice) / STD (Next Day) 2-Day Other____
Relinquished by:		Date/Time:		Custody Seals:	Comments/Special Instructions:
Received by:		Date/Time:		Sample (Cooler)	
Relinquished by:		Date/Time:		Delivered by client	
Received by:		Date/Time:		(CAS Courier)	

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 0:20
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-30 **Matrix: Water** **Lab ID: 12091003-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Vinyl chloride	**11**	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:32	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
cis-1,2-Dichloroethene	**34**	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Trichloroethene	**11**	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 1:32	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 0:20
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-30 **Matrix: Water** **Lab ID: 12091003-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 1:32	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 1:32	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:32	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 1:10
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-40 **Matrix: Water** **Lab ID: 12091003-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Vinyl chloride	**2**	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:56	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
cis-1,2-Dichloroethene	**8**	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Trichloroethene	**4**	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 1:56	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 1:10
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-40 **Matrix: Water** **Lab ID: 12091003-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 1:56	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 1:56	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 1:56	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 1:40
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-45 **Matrix: Water** **Lab ID: 12091003-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Vinyl chloride	**2**	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Methylene chloride	ND	ug/L	6	EPA 8260B	09/11/12	09/11/12 2:20	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
cis-1,2-Dichloroethene	**21**	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Trichloroethene	**7**	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 2:20	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 1:40
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-45 **Matrix: Water** **Lab ID: 12091003-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 2:20	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 2:20	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:20	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 2:35
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-50 **Matrix: Water** **Lab ID: 12091003-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Vinyl chloride	**6**	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:43	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
cis-1,2-Dichloroethene	**81**	ug/L	50	EPA 8260B	09/10/12	09/10/12 19:58	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Chloroform	**2**	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Trichloroethene	**18**	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 2:43	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 2:35
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-50 **Matrix: Water** **Lab ID: 12091003-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 2:43	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 2:43	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 2:43	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 3:20
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-55 **Matrix: Water** **Lab ID: 12091003-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:08	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
cis-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Trichloroethene	**1**	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 3:08	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 3:20
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-55 **Matrix: Water** **Lab ID: 12091003-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 3:08	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 3:08	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:08	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Date Sampled: 09/10/12 4:05
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Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-60 **Matrix: Water** **Lab ID: 12091003-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:31	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
cis-1,2-Dichloroethene	3	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 3:31	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 4:05
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-01-60 **Matrix: Water** **Lab ID: 12091003-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 3:31	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 3:31	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:31	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

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Date Sampled: 09/10/12
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: TB091012 **Matrix: Water** **Lab ID: 12091003-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 18:23	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 18:23	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 18:23	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: TB091012 **Matrix: Water** **Lab ID: 12091003-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 18:23	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 18:23	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 18:23	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 10:00
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-02-15 **Matrix: Water** **Lab ID: 12091003-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Vinyl chloride	**120**	ug/L	50	EPA 8260B	09/10/12	09/10/12 21:10	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:55	JKL
trans-1,2-Dichloroethene	**7**	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
cis-1,2-Dichloroethene	**670**	ug/L	50	EPA 8260B	09/10/12	09/10/12 21:10	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Trichloroethene	**91**	ug/L	50	EPA 8260B	09/10/12	09/10/12 21:10	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 3:55	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL

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Date Sampled: 09/10/12 10:00
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-02-15 **Matrix: Water** **Lab ID: 12091003-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 3:55	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 3:55	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 3:55	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-04-45 **Matrix: Water** **Lab ID: 12091003-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Acetone	ND	ug/L	15	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:34	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
cis-1,2-Dichloroethene	1	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 21:34	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL

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Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-04-45 **Matrix: Water** **Lab ID: 12091003-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 21:34	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 21:34	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:34	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

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Date Sampled: 09/10/12
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-DUP09-45 **Matrix: Water** **Lab ID: 12091003-10**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:58	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
cis-1,2-Dichloroethene	1	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Trichloroethene	1	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 21:58	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL

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Date Sampled: 09/10/12
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-DUP09-45 **Matrix: Water** **Lab ID: 12091003-10**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 21:58	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 21:58	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 21:58	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 11:20
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-04-50 **Matrix: Water** **Lab ID: 12091003-11**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:21	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
cis-1,2-Dichloroethene	1	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 22:21	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 11:20
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-04-50 **Matrix: Water** **Lab ID: 12091003-11**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 22:21	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 22:21	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:21	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 11:55
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-02-35 **Matrix: Water** **Lab ID: 12091003-12**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Acetone	ND	ug/L	15	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:45	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
cis-1,2-Dichloroethene	**1**	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Chloroform	**3**	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Trichloroethene	**14**	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 22:45	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL

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Date Sampled: 09/10/12 11:55
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-02-35 **Matrix: Water** **Lab ID: 12091003-12**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 22:45	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 22:45	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 22:45	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 13:30
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-04-55 **Matrix: Water** **Lab ID: 12091003-13**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:09	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 23:09	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 13:30
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-04-55 **Matrix: Water** **Lab ID: 12091003-13**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 23:09	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 23:09	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:09	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 13:55
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-02-40 **Matrix: Water** **Lab ID: 12091003-14**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:33	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Chloroform	**1**	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Trichloroethene	**5**	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 23:33	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL

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Date Sampled: 09/10/12 13:55
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-02-40 **Matrix: Water** **Lab ID: 12091003-14**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 23:33	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 23:33	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:33	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 09/10/12
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Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-DUP08-40 **Matrix: Water** **Lab ID: 12091003-15**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Vinyl chloride	**2**	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:57	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
cis-1,2-Dichloroethene	**9**	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Trichloroethene	**4**	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 23:57	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL

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Tetra Tech Inc.

Date Sampled: 09/10/12
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-DUP08-40 **Matrix: Water** **Lab ID: 12091003-15**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 23:57	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/10/12	09/10/12 23:57	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/10/12	09/10/12 23:57	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 15:35
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-17-50 **Matrix: Water** **Lab ID: 12091003-16**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 0:20	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 0:20	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/10/12 15:35
Date Received: 09/10/12 16:00
Date Issued: 09/11/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091003

Field Sample ID: DR-CPT-17-50 **Matrix: Water** **Lab ID: 12091003-16**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 0:20	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 0:20	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 0:20	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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CALIBER ANALYTICAL SERVICES

8851 Orchard Tree Lane Towson, MD 21286
Phone: 410.825.1151
Fax: 410.825.2126
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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	12091003
Sampled by:	W. O'Neill / S. Gmeiner
PO Number:	

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Matrix *	Preservative	VOCs by 8260B										Sampling Remarks/ Comments
	DR-CPT-01-30	9/10/12	1220	3	GW		√										
	DR-CPT-01-40		0110	3	GW		√										
	DR-CPT-01-45		0140	3	GW		√										
	DR-CPT-01-50		0235	3	GW		√										
	DR-CPT-01-55		0320	3	GW		√										
	DR-CPT-01-60		0405	3	GW		√										
	~~DR-CPT-01-40~~	↓	—	~~3~~	~~GW~~		~~√~~										
	TB-091012	—	—	2	GW		√										
	DR-CPT-02-15	9/10/12	1000	3	GW		√										
	DR-CPT-04-45	9/10/12	1050	3	GW		√										

Relinquished by:		Date/Time:	9/10/12 - 1600
Received by:		Date/Time:	9/10/12 1600
Relinquished by:		Date/Time:	
Received by:		Date/Time:	
Relinquished by:		Date/Time:	
Received by:		Date/Time:	

Deliverables: I II III CLP EDD

Receipt Temperature: Temp:____ (On Ice)

Turnaround Time: STD (Next Day) 2 Day Other____

Custody Seals: Sample (Cooler) Delivered by client (CAS Courier)

Comments/Special Instructions:

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

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Fax: 410.825.2126
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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	1209003
Sampled by:	W. O'Neil / S. Carver
PO Number:	

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B										Sampling Remarks/ Comments
						Analysis Requested										
	DR-CPT-DUP09-45	9/10/12	0000	3	GW	√										
	DR-CPT-04-50		1120	3	GW	√										
	DR-CPT-02-35		1155	3	GW	√										
	DR-CPT-04-55		1330	3	GW	√										
	DR-CPT-02-40		1355	3	GW	√										
	DR-CPT-DUP08-40		—	3	GW	√										
	DR-CPT-17-50		1535	3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										

Relinquished by:		Date/Time:	9/10/12 - 1600	Deliverables: I II III CLP EDD	Receipt Temperature: Temp:____ (On Ice)
Received by:		Date/Time:	9/10/12 1600		Turnaround Time: STD (Next Day) 2-Day Other____
Relinquished by:		Date/Time:		Custody Seals: Sample (Cooler)	Comments/Special Instructions:
Received by:		Date/Time:		Delivered by client	
Relinquished by:		Date/Time:		(CAS Courier)	
Received by:		Date/Time:			

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/11/12 9:30
Date Received: 09/11/12 15:35
Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-17-55 **Matrix: Water** **Lab ID: 12091108-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:23	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
cis-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
m&p-Xylene	**4**	ug/L	2	EPA 8260B	09/12/12	09/12/12 9:23	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/11/12 9:30
Date Received: 09/11/12 15:35
Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-17-55 **Matrix: Water** **Lab ID: 12091108-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 9:23	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 9:23	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:23	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/11/12 13:00
Date Received: 09/11/12 15:35
Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-08-20 **Matrix: Water** **Lab ID: 12091108-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Vinyl chloride	**140**	ug/L	50	EPA 8260B	09/11/12	09/11/12 20:46	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:48	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
cis-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Cyclohexane	**20**	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Benzene	**150**	ug/L	50	EPA 8260B	09/11/12	09/11/12 20:46	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Methylcyclohexane	**16**	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Toluene	**1**	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Chlorobenzene	**48**	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Ethylbenzene	**3**	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/12/12	09/12/12 9:48	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/11/12 13:00
Date Received: 09/11/12 15:35
Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-08-20 **Matrix: Water** **Lab ID: 12091108-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Isopropylbenzene	**3**	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,4-Dichlorobenzene	**3**	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,2-Dichlorobenzene	**10**	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 9:48	JKL
Diisopropyl ether (DIPE)	**12**	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 9:48	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 9:48	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/11/12 14:00
Date Received: 09/11/12 15:35
Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-08-25 **Matrix: Water** **Lab ID: 12091108-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Vinyl chloride	**14,000**	ug/L	400	EPA 8260B	09/12/12	09/12/12 8:59	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Acetone	ND	ug/L	500	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Methylene chloride	ND	ug/L	300	EPA 8260B	09/11/12	09/11/12 21:10	JKL
trans-1,2-Dichloroethene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
cis-1,2-Dichloroethene	**3,100**	ug/L	400	EPA 8260B	09/12/12	09/12/12 8:59	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Chloroform	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Benzene	**470**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,2-Dichloroethane	**110**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Trichloroethene	**160**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Toluene	**2,000**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Chlorobenzene	**360**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Ethylbenzene	**140**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	09/11/12	09/11/12 21:10	JKL
o-Xylene	**140**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/11/12 14:00
Date Received: 09/11/12 15:35
Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-08-25 **Matrix: Water** **Lab ID: 12091108-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Bromoform	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,3-Dichlorobenzene	**54**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,4-Dichlorobenzene	**170**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	09/11/12	09/11/12 21:10	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	09/11/12	09/11/12 21:10	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:10	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Received: 09/11/12 15:35
Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-08-30 **Matrix: Water** **Lab ID: 12091108-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Vinyl chloride	**22,000**	ug/L	4000	EPA 8260B	09/12/12	09/12/12 10:12	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Acetone	ND	ug/L	500	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Methylene chloride	ND	ug/L	2500	EPA 8260B	09/11/12	09/11/12 21:34	JKL
trans-1,2-Dichloroethene	**270**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
cis-1,2-Dichloroethene	**34,000**	ug/L	4000	EPA 8260B	09/12/12	09/12/12 10:12	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Chloroform	**79**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Benzene	**280**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,2-Dichloroethane	**620**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Trichloroethene	**40,000**	ug/L	4000	EPA 8260B	09/12/12	09/12/12 10:12	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Toluene	**2,800**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Chlorobenzene	**180**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
m&p-Xylene	**120**	ug/L	100	EPA 8260B	09/11/12	09/11/12 21:34	JKL
o-Xylene	**92**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL

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Date Received: 09/11/12 15:35
Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-08-30 **Matrix: Water** **Lab ID: 12091108-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Bromoform	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,3-Dichlorobenzene	**83**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,4-Dichlorobenzene	**96**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
1,2,4-Trichlorobenzene	**630**	ug/L	100	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	09/11/12	09/11/12 21:34	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	09/11/12	09/11/12 21:34	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:34	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Date Sampled: 09/11/12 15:00
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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-08-35 **Matrix: Water** **Lab ID: 12091108-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Vinyl chloride	**2,300**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Acetone	ND	ug/L	500	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Methylene chloride	ND	ug/L	1500	EPA 8260B	09/11/12	09/11/12 21:58	JKL
trans-1,2-Dichloroethene	**71**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
cis-1,2-Dichloroethene	**3,100**	ug/L	400	EPA 8260B	09/12/12	09/12/12 10:36	JKL
2-Butanone (MEK)	**700**	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Chloroform	**58**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Carbon tetrachloride	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Benzene	**61**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,2-Dichloroethane	**460**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Trichloroethene	**9,700**	ug/L	400	EPA 8260B	09/12/12	09/12/12 10:36	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Toluene	**1,600**	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Tetrachloroethene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Ethylbenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
m&p-Xylene	ND	ug/L	100	EPA 8260B	09/11/12	09/11/12 21:58	JKL
o-Xylene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL

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Date Sampled: 09/11/12 15:00
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Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-08-35 **Matrix: Water** **Lab ID: 12091108-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Bromoform	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	09/11/12	09/11/12 21:58	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	09/11/12	09/11/12 21:58	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	09/11/12	09/11/12 21:58	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/11/12 15:20
Date Received: 09/11/12 15:35
Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-08-40 **Matrix: Water** **Lab ID: 12091108-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Vinyl chloride	**960**	ug/L	50	EPA 8260B	09/11/12	09/11/12 22:22	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Methylene chloride	ND	ug/L	180	EPA 8260B	09/12/12	09/12/12 11:01	JKL
trans-1,2-Dichloroethene	**8**	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
cis-1,2-Dichloroethene	**1,600**	ug/L	50	EPA 8260B	09/11/12	09/11/12 22:22	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Chloroform	**5**	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Benzene	**20**	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,2-Dichloroethane	**46**	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Trichloroethene	**1,800**	ug/L	50	EPA 8260B	09/11/12	09/11/12 22:22	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Toluene	**140**	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Chlorobenzene	**8**	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/12/12	09/12/12 11:01	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL

8851 Orchard Tree Lane Towson, Maryland 21286
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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/11/12 15:20
Date Received: 09/11/12 15:35
Date Issued: 09/12/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: DR-CPT-08-40 **Matrix: Water** **Lab ID: 12091108-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
1,2,4-Trichlorobenzene	**12**	ug/L	10	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/12/12	09/12/12 11:01	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/12/12	09/12/12 11:01	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 11:01	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: TB091112 **Matrix: Water** **Lab ID: 12091108-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 19:59	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 19:59	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 19:59	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL

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Certificate of Analysis

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091108

Field Sample ID: TB091112 **Matrix: Water** **Lab ID: 12091108-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 19:59	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/11/12	09/11/12 19:59	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/11/12	09/11/12 19:59	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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CALIBER ANALYTICAL SERVICES

8851 Orchard Tree Lane Towson, MD 21286
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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	120911108
Sampled by:	
PO Number:	

Page 1 of 1

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B										Sampling Remarks/ Comments
	DR-CPT-17-55	9-11-12	0930	3	GW	√										
	~~DR-CPT-17-60~~		~~1200~~	3	GW	√										
	DR-CPT-08-20	9-11-12	1300	3	GW	√										
	DR-CPT-08-25	"	1400	3	GW	√										
	DR-CPT-08-30	"	1430	3	GW	√										
	DR-CPT-08-35	"	1500	3	GW	√										
	DR-CPT-08-40	↓	1520	3	GW	√										
	TB-091112	—	—	~~3~~ 2	GW	√										
				3	GW	√										
				3	GW	√										

Relinquished by:		Date/Time:	9-11-12 / 1535	Deliverables:	Receipt Temperature:	Turnaround Time:
Received by:		Date/Time:	9/11/12 1535	I II III CLP EDD	Temp: ____ (On Ice)	STD (Next Day 2 Day Other____
Relinquished by:		Date/Time:		Custody Seals:	Comments/Special Instructions:	
Received by:		Date/Time:		Sample (Cooler)		
Relinquished by:		Date/Time:		Delivered by client		
Received by:		Date/Time:		(CAS Courier)		

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/12/12
Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: TB091212 **Matrix: Water** **Lab ID: 12091203-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 16:41	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/12/12	09/12/12 16:41	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL

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Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: TB091212 **Matrix: Water** **Lab ID: 12091203-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 16:41	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/12/12	09/12/12 16:41	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/12/12	09/12/12 16:41	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/12/12 9:25
Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-08-45 **Matrix: Water** **Lab ID: 12091203-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Vinyl chloride	**1,800**	ug/L	50	EPA 8260B	09/12/12	09/12/12 17:05	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:15	JKL
trans-1,2-Dichloroethene	**7**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
cis-1,2-Dichloroethene	**1,500**	ug/L	50	EPA 8260B	09/12/12	09/12/12 17:05	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Benzene	**30**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,2-Dichloroethane	**20**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Trichloroethene	**440**	ug/L	50	EPA 8260B	09/12/12	09/12/12 17:05	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Toluene	**6**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Chlorobenzene	**6**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 9:15	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL

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Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-08-45 **Matrix: Water** **Lab ID: 12091203-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,3-Dichlorobenzene	**5**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,4-Dichlorobenzene	**5**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
1,2,4-Trichlorobenzene	**21**	ug/L	10	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/13/12	09/13/12 9:15	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/13/12	09/13/12 9:15	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:15	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-DUP10-45 **Matrix: Water** **Lab ID: 12091203-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Vinyl chloride	**1,700**	ug/L	50	EPA 8260B	09/12/12	09/12/12 17:29	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Methylene chloride	ND	ug/L	30	EPA 8260B	09/13/12	09/13/12 9:39	JKL
trans-1,2-Dichloroethene	**7**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
cis-1,2-Dichloroethene	**1,400**	ug/L	50	EPA 8260B	09/12/12	09/12/12 17:29	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Benzene	**29**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,2-Dichloroethane	**19**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Trichloroethene	**440**	ug/L	50	EPA 8260B	09/12/12	09/12/12 17:29	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Toluene	**6**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Chlorobenzene	**6**	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 9:39	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL

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Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-DUP10-45 **Matrix: Water** **Lab ID: 12091203-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
1,2,4-Trichlorobenzene	**19**	ug/L	10	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/13/12	09/13/12 9:39	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/13/12	09/13/12 9:39	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 9:39	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/12/12 10:35
Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-08-50 **Matrix: Water** **Lab ID: 12091203-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Vinyl chloride	**490**	ug/L	50	EPA 8260B	09/12/12	09/12/12 17:53	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Chloroethane	**20**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Methylene chloride	ND	ug/L	50	EPA 8260B	09/13/12	09/13/12 10:04	JKL
trans-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
cis-1,2-Dichloroethene	**390**	ug/L	50	EPA 8260B	09/12/12	09/12/12 17:53	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Benzene	**8**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,2-Dichloroethane	**7**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Trichloroethene	**98**	ug/L	50	EPA 8260B	09/12/12	09/12/12 17:53	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Toluene	**4**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Chlorobenzene	**3**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 10:04	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL

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Tetra Tech Inc.

Date Sampled: 09/12/12 10:35
Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-08-50 **Matrix: Water** **Lab ID: 12091203-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
1,2,4-Trichlorobenzene	**4**	ug/L	2	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 10:04	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 10:04	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:04	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/12/12 12:00
Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-08-55 **Matrix: Water** **Lab ID: 12091203-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Vinyl chloride	**440**	ug/L	50	EPA 8260B	09/12/12	09/12/12 18:17	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Chloroethane	**16**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Methylene chloride	ND	ug/L	30	EPA 8260B	09/13/12	09/13/12 10:29	JKL
trans-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
cis-1,2-Dichloroethene	**350**	ug/L	50	EPA 8260B	09/12/12	09/12/12 18:17	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Benzene	**7**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,2-Dichloroethane	**6**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Trichloroethene	**92**	ug/L	50	EPA 8260B	09/12/12	09/12/12 18:17	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Toluene	**5**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Chlorobenzene	**3**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 10:29	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/12/12 12:00
Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-08-55 **Matrix: Water** **Lab ID: 12091203-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
1,2,4-Trichlorobenzene	3	ug/L	2	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 10:29	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 10:29	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:29	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 09/12/12 14:05
Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-10-20 **Matrix: Water** **Lab ID: 12091203-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Vinyl chloride	**29**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Chloroethane	**1**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Methylene chloride	ND	ug/L	35	EPA 8260B	09/13/12	09/13/12 10:53	JKL
trans-1,2-Dichloroethene	**3**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
cis-1,2-Dichloroethene	**340**	ug/L	50	EPA 8260B	09/12/12	09/12/12 18:41	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Benzene	**2**	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 10:53	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL

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Certificate of Analysis

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Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-10-20 **Matrix: Water** **Lab ID: 12091203-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 10:53	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 10:53	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 10:53	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/12/12 14:35
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Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-10-25 **Matrix: Water** **Lab ID: 12091203-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Vinyl chloride	**150**	ug/L	50	EPA 8260B	09/12/12	09/12/12 19:05	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 11:17	JKL
trans-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
cis-1,2-Dichloroethene	**57**	ug/L	50	EPA 8260B	09/12/12	09/12/12 19:05	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 11:17	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 11:17	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/12/12 14:35
Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-10-25 **Matrix: Water** **Lab ID: 12091203-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 11:17	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 11:17	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:17	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/12/12 15:00
Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-10-30 **Matrix: Water** **Lab ID: 12091203-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Vinyl chloride	**160**	ug/L	50	EPA 8260B	09/12/12	09/12/12 19:29	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 11:42	JKL
trans-1,2-Dichloroethene	**2**	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
cis-1,2-Dichloroethene	**180**	ug/L	50	EPA 8260B	09/12/12	09/12/12 19:29	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Benzene	**2**	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Trichloroethene	**18**	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 11:42	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 11:42	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/12/12 15:00
Date Received: 09/12/12 15:30
Date Issued: 09/13/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091203

Field Sample ID: DR-CPT-10-30 **Matrix: Water** **Lab ID: 12091203-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 11:42	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 11:42	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 11:42	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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CALIBER ANALYTICAL SERVICES

8851 Orchard Tree Lane Towson, MD 21286
Phone: 410.825.1151
Fax: 410.825.2126
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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	12091203
Sampled by:	
PO Number:	

Page 1 of 1

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B										Sampling Remarks/ Comments
	TB-091212	~~9-12-12~~	—	~~3~~ 2	GW	√										
	DR-CPT-08-45	9-12-12	0925	3	GW	√										
	DR-CPT-DUP10-45	09-12-12	0000	3	GW	√										
	DR-CPT-08-50	"	1035	3	GW	√										
	DR-CPT-08-55	"	1200	3	GW	√										
	DR-CPT-10-20	"	1405	3	GW	√										
	DR-CPT-10-25	"	1455	3	GW	√										
	DR-CPT-10-30	↓	1500	3	GW	√										
				3	GW	√										
				3	GW	√										

Relinquished by:		**Date/Time:**	9-12-12/ 1530	**Deliverables:**	**Receipt Temperature:**	**Turnaround Time:**
Received by:		**Date/Time:**	9/12/12 1530	I II III CLP EDD	Temp:____ (On Ice)	STD (Next Day) 2-Day Other____
Relinquished by:		**Date/Time:**		**Custody Seals:**	**Comments/Special Instructions:**	
Received by:		**Date/Time:**		Sample (Cooler)		
Relinquished by:		**Date/Time:**		Delivered by client		
Received by:		**Date/Time:**		(CAS Courier)		

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/13/12 9:20
Date Received: 09/13/12 12:50
Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: DR-CPT-10-35 **Matrix: Water** **Lab ID: 12091308-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Vinyl chloride	**1,400**	ug/L	50	EPA 8260B	09/13/12	09/13/12 15:40	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 8:51	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
cis-1,2-Dichloroethene	**540**	ug/L	50	EPA 8260B	09/13/12	09/13/12 15:40	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Benzene	**12**	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Trichloroethene	**49**	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Toluene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/14/12	09/14/12 8:51	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/13/12 9:20
Date Received: 09/13/12 12:50
Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: DR-CPT-10-35 **Matrix: Water** **Lab ID: 12091308-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/14/12	09/14/12 8:51	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/14/12	09/14/12 8:51	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 8:51	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/13/12 10:10
Date Received: 09/13/12 12:50
Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: DR-CPT-10-40 **Matrix: Water** **Lab ID: 12091308-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Vinyl chloride	**670**	ug/L	50	EPA 8260B	09/13/12	09/13/12 16:04	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Methylene chloride	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:15	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
cis-1,2-Dichloroethene	**730**	ug/L	50	EPA 8260B	09/13/12	09/13/12 16:04	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Benzene	**6**	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,2-Dichloroethane	**9**	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Trichloroethene	**89**	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Toluene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/14/12	09/14/12 9:15	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL

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Date Sampled: 09/13/12 10:10
Date Received: 09/13/12 12:50
Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: DR-CPT-10-40 **Matrix: Water** **Lab ID: 12091308-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/14/12	09/14/12 9:15	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/14/12	09/14/12 9:15	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:15	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: DR-CPT-10-45 **Matrix: Water** **Lab ID: 12091308-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Vinyl chloride	**590**	ug/L	50	EPA 8260B	09/13/12	09/13/12 16:29	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Methylene chloride	ND	ug/L	30	EPA 8260B	09/14/12	09/14/12 9:39	JKL
trans-1,2-Dichloroethene	**9**	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
cis-1,2-Dichloroethene	**910**	ug/L	50	EPA 8260B	09/13/12	09/13/12 16:29	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Benzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Trichloroethene	**380**	ug/L	50	EPA 8260B	09/13/12	09/13/12 16:29	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Toluene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/14/12	09/14/12 9:39	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL

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Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: DR-CPT-10-45 **Matrix: Water** **Lab ID: 12091308-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/14/12	09/14/12 9:39	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/14/12	09/14/12 9:39	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 9:39	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/13/12 11:05
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Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: DR-CPT-10-50 **Matrix: Water** **Lab ID: 12091308-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Vinyl chloride	**290**	ug/L	50	EPA 8260B	09/13/12	09/13/12 16:53	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	09/14/12	09/14/12 10:03	JKL
trans-1,2-Dichloroethene	**5**	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
cis-1,2-Dichloroethene	**460**	ug/L	50	EPA 8260B	09/13/12	09/13/12 16:53	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Chloroform	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Benzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Trichloroethene	**400**	ug/L	50	EPA 8260B	09/13/12	09/13/12 16:53	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Toluene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/14/12	09/14/12 10:03	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL

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Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: DR-CPT-10-50 **Matrix: Water** **Lab ID: 12091308-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/14/12	09/14/12 10:03	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/14/12	09/14/12 10:03	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:03	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 09/13/12 11:15
Date Received: 09/13/12 12:50
Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: DR-CPT-10-55 **Matrix: Water** **Lab ID: 12091308-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Vinyl chloride	**19**	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Methylene chloride	ND	ug/L	30	EPA 8260B	09/14/12	09/14/12 10:27	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
cis-1,2-Dichloroethene	**39**	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Trichloroethene	**100**	ug/L	50	EPA 8260B	09/13/12	09/13/12 17:18	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/14/12	09/14/12 10:27	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/13/12 11:15
Date Received: 09/13/12 12:50
Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: DR-CPT-10-55 **Matrix: Water** **Lab ID: 12091308-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 10:27	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/14/12	09/14/12 10:27	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/14/12	09/14/12 10:27	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/13/12
Date Received: 09/13/12 12:50
Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: TB-091312 **Matrix: Water** **Lab ID: 12091308-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 15:15	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 15:15	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/13/12
Date Received: 09/13/12 12:50
Date Issued: 09/14/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12091308

Field Sample ID: TB-091312 **Matrix: Water** **Lab ID: 12091308-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 15:15	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/13/12	09/13/12 15:15	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/13/12	09/13/12 15:15	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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CALIBER ANALYTICAL SERVICES

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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	1209308
Sampled by:	S. Cameron
PO Number:	

Page 1 of 1

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B										Sampling Remarks/ Comments
	DR-CPT-10-35	9/13/12	0920	3	GW	√										
	DR-CPT-10-40	↓	1010	3	GW	√										
	DR-CPT-10-45		1035	3	GW	√										
	DR-CPT-10-50		1105	3	GW	√										
	DR-CPT-10-55	↓	1115	3	GW	√										
	TB-091312	—	—	~~3~~ 2	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										

Relinquished by:		Date/Time:	9-13-12 /
Received by:		Date/Time:	9/13/12 1250
Relinquished by:		Date/Time:	
Received by:		Date/Time:	
Relinquished by:		Date/Time:	
Received by:		Date/Time:	

Deliverables: I II III CLP EDD

Custody Seals: Sample (Cooler) Delivered by client (CAS Courier)

Receipt Temperature: Temp:____ (On Ice)

Turnaround Time: STD (Next Day) 2 Day Other____

Comments/Special Instructions:

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: TB-092012 **Matrix: Water** **Lab ID: 12092006-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 0:47	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: TB-092012 **Matrix: Water** **Lab ID: 12092006-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/21/12	09/21/12 0:47	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Styrene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 0:47	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 0:47	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 0:47	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12 9:55
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: DR-CPT-05-15 **Matrix: Water** **Lab ID: 12092006-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:38	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL

8851 Orchard Tree Lane Towson, Maryland 21286
tel: 410.825.1151 fax: 410.825.2126 www.caslabs.net

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12 9:55
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: DR-CPT-05-15 **Matrix: Water** **Lab ID: 12092006-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/21/12	09/21/12 11:38	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Styrene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 11:38	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 11:38	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:38	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12 10:45
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: DR-CPT-05-20 **Matrix: Water** **Lab ID: 12092006-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Vinyl chloride	**8**	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Methylene chloride	ND	ug/L	6	EPA 8260B	09/21/12	09/21/12 10:19	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
cis-1,2-Dichloroethene	**7**	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Benzene	**2**	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Trichloroethene	**3**	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12 10:45
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: DR-CPT-05-20 **Matrix: Water** **Lab ID: 12092006-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/21/12	09/21/12 10:19	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Styrene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 10:19	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 10:19	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:19	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12 11:30
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: DR-CPT-05-25 **Matrix: Water** **Lab ID: 12092006-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Vinyl chloride	**38**	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Methylene chloride	ND	ug/L	50	EPA 8260B	09/21/12	09/21/12 10:49	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
cis-1,2-Dichloroethene	**89**	ug/L	50	EPA 8260B	09/21/12	09/21/12 1:59	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Trichloroethene	**36**	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12 11:30
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: DR-CPT-05-25 **Matrix: Water** **Lab ID: 12092006-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/21/12	09/21/12 10:49	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Styrene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 10:49	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 10:49	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 10:49	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

8851 Orchard Tree Lane Towson, Maryland 21286
tel: 410.825.1151 fax: 410.825.2126 www.caslabs.net

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12 12:05
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: DR-CPT-05-30 **Matrix: Water** **Lab ID: 12092006-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Vinyl chloride	**280**	ug/L	50	EPA 8260B	09/21/12	09/21/12 2:23	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Acetone	ND	ug/L	50	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	09/21/12	09/21/12 12:03	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
cis-1,2-Dichloroethene	**800**	ug/L	50	EPA 8260B	09/21/12	09/21/12 2:23	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Chloroform	**6**	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Benzene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Trichloroethene	**400**	ug/L	50	EPA 8260B	09/21/12	09/21/12 2:23	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Toluene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL

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Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: DR-CPT-05-30 **Matrix: Water** **Lab ID: 12092006-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
m&p-Xylene	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 12:03	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Styrene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Bromoform	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	09/21/12	09/21/12 12:03	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	09/21/12	09/21/12 12:03	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 12:03	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12 13:50
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: DR-CPT-05-35 **Matrix: Water** **Lab ID: 12092006-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Vinyl chloride	**5**	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Acetone	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Methylene chloride	ND	ug/L	50	EPA 8260B	09/21/12	09/21/12 11:13	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
cis-1,2-Dichloroethene	**35**	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Chloroform	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Benzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Trichloroethene	**21**	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Toluene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 09/20/12 13:50
Date Received: 09/20/12 15:30
Date Issued: 09/21/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12092006

Field Sample ID: DR-CPT-05-35 **Matrix: Water** **Lab ID: 12092006-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
m&p-Xylene	ND	ug/L	2	EPA 8260B	09/21/12	09/21/12 11:13	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Styrene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Bromoform	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 11:13	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	09/21/12	09/21/12 11:13	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	09/21/12	09/21/12 11:13	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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CALIBER ANALYTICAL SERVICES

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Fax: 410.825.2126
www.caslabs.net

Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	12092006
Sampled by:	S. Cameron
PO Number:	

Page 1 of 1

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B										Sampling Remarks/ Comments
	TB-092012	—	—	2	GW	√										
	DR-CPT-05-15	9/20/12	0955	3	GW	√										
	DR-CPT-05-20		1045	3	GW	√										
	DR-CPT-05-25		1130	3	GW	√										
	DR-CPT-05-30		1205	3	GW	√										
	DR-CPT-05-35		1250	3	GW	√										
	[redacted]			3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										

Relinquished by:		**Date/Time:**	9/20/12-1530	**Deliverables:** I II III CLP EDD	**Receipt Temperature:** Temp:____ (On Ice)	**Turnaround Time:** STD (Next Day) 2 Day Other____
Received by:		**Date/Time:**	9/20/121530			
Relinquished by:		**Date/Time:**		**Custody Seals:** Sample (Cooler) Delivered by client (CAS Courier)	**Comments/Special Instructions:**	
Received by:		**Date/Time:**				
Relinquished by:		**Date/Time:**				
Received by:		**Date/Time:**				

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: TB100312 **Matrix: Water** **Lab ID: 12100304-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Vinyl chloride	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Acetone	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Methylene chloride	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 18:14	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
cis-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Chloroform	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Benzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Trichloroethene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Toluene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	10/03/12	10/03/12 18:14	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: TB100312 **Matrix: Water** **Lab ID: 12100304-01**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Bromoform	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 18:14	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 18:14	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 18:14	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Date Sampled: 10/03/12 9:40
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-03-20 **Matrix: Water** **Lab ID: 12100304-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Vinyl chloride	**3,100**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Acetone	ND	ug/L	500	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Methylene chloride	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 14:07	JKL
trans-1,2-Dichloroethene	**630**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
cis-1,2-Dichloroethene	**67,000**	ug/L	4000	EPA 8260B	10/03/12	10/03/12 21:51	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Chloroform	**3,100**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Carbon tetrachloride	**3,600**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Benzene	**170**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Trichloroethene	**43,000**	ug/L	4000	EPA 8260B	10/03/12	10/03/12 21:51	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Toluene	**35,000**	ug/L	4000	EPA 8260B	10/03/12	10/03/12 21:51	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,1,2-Trichloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Tetrachloroethene	**720**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Ethylbenzene	**170**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
m&p-Xylene	**590**	ug/L	100	EPA 8260B	10/03/12	10/03/12 14:07	JKL
o-Xylene	**330**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL

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Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-03-20 **Matrix: Water** **Lab ID: 12100304-02**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Bromoform	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	10/03/12	10/03/12 14:07	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	10/03/12	10/03/12 14:07	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:07	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-03-33 **Matrix: Water** **Lab ID: 12100304-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Vinyl chloride	**20**	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Acetone	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Methylene chloride	ND	ug/L	30	EPA 8260B	10/03/12	10/03/12 22:15	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
cis-1,2-Dichloroethene	**900**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:32	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Chloroform	**430**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:32	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Carbon tetrachloride	**470**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:32	JKL
Benzene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Trichloroethene	**1,600**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:32	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Toluene	**820**	ug/L	50	EPA 8260B	10/03/12	10/03/12 14:32	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,1,2-Trichloroethane	**9**	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Tetrachloroethene	**13**	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
m&p-Xylene	**11**	ug/L	10	EPA 8260B	10/03/12	10/03/12 22:15	JKL
o-Xylene	**6**	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL

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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-03-33 **Matrix: Water** **Lab ID: 12100304-03**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Bromoform	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	10/03/12	10/03/12 22:15	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	10/03/12	10/03/12 22:15	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:15	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 10/03/12 9:55
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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-04-14 **Matrix: Water** **Lab ID: 12100304-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Vinyl chloride	**4**	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Acetone	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Methylene chloride	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 22:38	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
cis-1,2-Dichloroethene	**11**	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Chloroform	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Benzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Trichloroethene	**3**	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Toluene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Tetrachloroethene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	10/03/12	10/03/12 22:38	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12 9:55
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-04-14 **Matrix: Water** **Lab ID: 12100304-04**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Bromoform	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 22:38	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	10/03/12	10/03/12 22:38	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	10/03/12	10/03/12 22:38	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

8851 Orchard Tree Lane Towson, Maryland 21286
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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12 10:00
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-04-24 **Matrix: Water** **Lab ID: 12100304-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Chloromethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Vinyl chloride	**820**	ug/L	50	EPA 8260B	10/03/12	10/03/12 15:22	JKL
Bromomethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Chloroethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Trichlorofluoromethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,1-Dichloroethene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Acetone	ND	ug/L	100	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Carbon disulfide	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Methyl acetate	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Methylene chloride	ND	ug/L	300	EPA 8260B	10/03/12	10/03/12 23:02	JKL
trans-1,2-Dichloroethene	**11**	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,1-Dichloroethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
cis-1,2-Dichloroethene	**3,800**	ug/L	50	EPA 8260B	10/03/12	10/03/12 15:22	JKL
2-Butanone (MEK)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Chloroform	**40**	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,1,1-Trichloroethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Cyclohexane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Carbon tetrachloride	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Benzene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,2-Dichloroethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Trichloroethene	**1,500**	ug/L	50	EPA 8260B	10/03/12	10/03/12 15:22	JKL
Methylcyclohexane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,2-Dichloropropane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Bromodichloromethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
cis-1,3-Dichloropropene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Toluene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
trans-1,3-Dichloropropene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,1,2-Trichloroethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Tetrachloroethene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
2-Hexanone (MBK)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Dibromochloromethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,2-Dibromoethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Chlorobenzene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Ethylbenzene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
m&p-Xylene	ND	ug/L	20	EPA 8260B	10/03/12	10/03/12 23:02	JKL
o-Xylene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12 10:00
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-04-24 **Matrix: Water** **Lab ID: 12100304-05**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Bromoform	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Isopropylbenzene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,3-Dichlorobenzene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,4-Dichlorobenzene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,2-Dichlorobenzene	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
1,2,4-Trichlorobenzene	ND	ug/L	20	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Naphthalene	ND	ug/L	100	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
tert-Butanol (TBA)	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 23:02	JKL
Diisopropyl ether (DIPE)	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 23:02	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	10	EPA 8260B	10/03/12	10/03/12 23:02	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12 10:10
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-01-15 **Matrix: Water** **Lab ID: 12100304-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Vinyl chloride	**230**	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Acetone	ND	ug/L	50	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Methylene chloride	ND	ug/L	180	EPA 8260B	10/04/12	10/04/12 8:19	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
cis-1,2-Dichloroethene	**580**	ug/L	50	EPA 8260B	10/03/12	10/03/12 15:47	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Chloroform	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Benzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Trichloroethene	**140**	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Toluene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Tetrachloroethene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 8:19	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12 10:10
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-01-15 **Matrix: Water** **Lab ID: 12100304-06**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Bromoform	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	10/04/12	10/04/12 8:19	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	10/04/12	10/04/12 8:19	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:19	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:



QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12 10:15
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-01-23 **Matrix: Water** **Lab ID: 12100304-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Vinyl chloride	**290**	ug/L	50	EPA 8260B	10/03/12	10/03/12 16:12	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Acetone	ND	ug/L	50	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Methylene chloride	ND	ug/L	50	EPA 8260B	10/04/12	10/04/12 8:43	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
cis-1,2-Dichloroethene	**1,600**	ug/L	50	EPA 8260B	10/03/12	10/03/12 16:12	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Chloroform	**13**	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Benzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Trichloroethene	**630**	ug/L	50	EPA 8260B	10/03/12	10/03/12 16:12	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Toluene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Tetrachloroethene	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 8:43	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 8:43	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12 10:15
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-01-23 **Matrix: Water** **Lab ID: 12100304-07**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Bromoform	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	10/04/12	10/04/12 8:43	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	10/04/12	10/04/12 8:43	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 8:43	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Date Sampled: 10/03/12 10:25
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Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-02-14 **Matrix: Water** **Lab ID: 12100304-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Chloromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Vinyl chloride	**54**	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Bromomethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Chloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Trichlorofluoromethane	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,1-Dichloroethene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Acetone	ND	ug/L	50	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Carbon disulfide	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Methyl acetate	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Methylene chloride	ND	ug/L	50	EPA 8260B	10/04/12	10/04/12 9:07	JKL
trans-1,2-Dichloroethene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,1-Dichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
cis-1,2-Dichloroethene	**540**	ug/L	50	EPA 8260B	10/03/12	10/03/12 16:36	JKL
2-Butanone (MEK)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Chloroform	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,1,1-Trichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Cyclohexane	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Carbon tetrachloride	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Benzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,2-Dichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Trichloroethene	**50**	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Methylcyclohexane	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,2-Dichloropropane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Bromodichloromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
cis-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Toluene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
trans-1,3-Dichloropropene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,1,2-Trichloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Tetrachloroethene	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 9:07	JKL
2-Hexanone (MBK)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Dibromochloromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,2-Dibromoethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Chlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Ethylbenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
m&p-Xylene	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 9:07	JKL
o-Xylene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL

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Date Sampled: 10/03/12 10:25
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-02-14 **Matrix: Water** **Lab ID: 12100304-08**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Bromoform	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Isopropylbenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,3-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,4-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,2-Dichlorobenzene	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
1,2,4-Trichlorobenzene	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Naphthalene	ND	ug/L	50	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
tert-Butanol (TBA)	ND	ug/L	130	EPA 8260B	10/04/12	10/04/12 9:07	JKL
Diisopropyl ether (DIPE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	130	EPA 8260B	10/04/12	10/04/12 9:07	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:07	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Date Sampled: 10/03/12 10:30
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Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-02-23 **Matrix: Water** **Lab ID: 12100304-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Vinyl chloride	**2**	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Acetone	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 9:31	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
cis-1,2-Dichloroethene	**63**	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:01	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Chloroform	**2**	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Carbon tetrachloride	**2**	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Benzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Trichloroethene	**23**	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Toluene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	10/04/12	10/04/12 9:31	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	10/04/12	10/04/12 9:31	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL

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Date Sampled: 10/03/12 10:30
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-02-23 **Matrix: Water** **Lab ID: 12100304-09**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Bromoform	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 9:31	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 9:31	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 9:31	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by:

QC Chemist

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Date Sampled: 10/03/12
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Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-DUP 12-20 **Matrix: Water** **Lab ID: 12100304-10**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Chloromethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Vinyl chloride	**3,200**	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Bromomethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Chloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Trichlorofluoromethane	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,1-Dichloroethene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Acetone	ND	ug/L	500	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Carbon disulfide	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Methyl acetate	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Methylene chloride	ND	ug/L	500	EPA 8260B	10/03/12	10/03/12 17:25	JKL
trans-1,2-Dichloroethene	**480**	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,1-Dichloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
cis-1,2-Dichloroethene	**69,000**	ug/L	4000	EPA 8260B	10/04/12	10/04/12 9:55	JKL
2-Butanone (MEK)	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Chloroform	**3,100**	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,1,1-Trichloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Cyclohexane	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Carbon tetrachloride	**3,600**	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Benzene	**180**	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,2-Dichloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Trichloroethene	**53,000**	ug/L	4000	EPA 8260B	10/04/12	10/04/12 9:55	JKL
Methylcyclohexane	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,2-Dichloropropane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Bromodichloromethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
cis-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Toluene	**41,000**	ug/L	4000	EPA 8260B	10/04/12	10/04/12 9:55	JKL
trans-1,3-Dichloropropene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,1,2-Trichloroethane	**100**	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Tetrachloroethene	**770**	ug/L	100	EPA 8260B	10/03/12	10/03/12 17:25	JKL
2-Hexanone (MBK)	ND	ug/L	250	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Dibromochloromethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,2-Dibromoethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Chlorobenzene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Ethylbenzene	**170**	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
m&p-Xylene	**550**	ug/L	100	EPA 8260B	10/03/12	10/03/12 17:25	JKL
o-Xylene	**310**	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-DUP 12-20 **Matrix: Water** **Lab ID: 12100304-10**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Bromoform	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Isopropylbenzene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,3-Dichlorobenzene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,4-Dichlorobenzene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,2-Dichlorobenzene	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
1,2,4-Trichlorobenzene	ND	ug/L	100	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Naphthalene	ND	ug/L	500	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
tert-Butanol (TBA)	ND	ug/L	1300	EPA 8260B	10/03/12	10/03/12 17:25	JKL
Diisopropyl ether (DIPE)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	1300	EPA 8260B	10/03/12	10/03/12 17:25	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	50	EPA 8260B	10/03/12	10/03/12 17:25	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: Matt Osher
QC Chemist

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Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-DUP 13-14 **Matrix: Water** **Lab ID: 12100304-11**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Dichlorodifluoromethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Chloromethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Vinyl chloride	**4**	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Bromomethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Chloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Trichlorofluoromethane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,1-Dichloroethene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Acetone	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Carbon disulfide	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Methyl acetate	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Methylene chloride	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 10:19	JKL
trans-1,2-Dichloroethene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Methyl t-butyl ether (MTBE)	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,1-Dichloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
cis-1,2-Dichloroethene	**11**	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
2-Butanone (MEK)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Chloroform	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,1,1-Trichloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Cyclohexane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Carbon tetrachloride	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Benzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,2-Dichloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Trichloroethene	**3**	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Methylcyclohexane	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,2-Dichloropropane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Bromodichloromethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
cis-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Toluene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
trans-1,3-Dichloropropene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,1,2-Trichloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Tetrachloroethene	ND	ug/L	2	EPA 8260B	10/04/12	10/04/12 10:19	JKL
2-Hexanone (MBK)	ND	ug/L	5	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Dibromochloromethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,2-Dibromoethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Chlorobenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Ethylbenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
m&p-Xylene	ND	ug/L	2	EPA 8260B	10/04/12	10/04/12 10:19	JKL
o-Xylene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

Tetra Tech Inc.

Date Sampled: 10/03/12
Date Received: 10/03/12 13:05
Date Issued: 10/04/12

Project: Dump Road
Site Location: Middle River, MD
Project Number: 1086998

SDG Number: 12100304

Field Sample ID: DR-CPT-DUP 13-14 **Matrix: Water** **Lab ID: 12100304-11**

	Result	Unit	LLQ	Method	Prepared	Analyzed	Init.
Target Compound List - VOLATILES							
Styrene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Bromoform	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Isopropylbenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,1,2,2-Tetrachloroethane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,3-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,4-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,2-Dichlorobenzene	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,2-Dibromo-3-chloropropane	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
1,2,4-Trichlorobenzene	ND	ug/L	2	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Naphthalene	ND	ug/L	10	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Ethyl t-butyl ether (ETBE)	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
tert-Butanol (TBA)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 10:19	JKL
Diisopropyl ether (DIPE)	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
tert-Amyl methyl ether (TAME)	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL
tert-Amyl alcohol (TAA)	ND	ug/L	25	EPA 8260B	10/04/12	10/04/12 10:19	JKL
tert-Amyl ethyl ether (TAEE)	ND	ug/L	1	EPA 8260B	10/04/12	10/04/12 10:19	JKL

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.

Approved by: 

QC Chemist

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CALIBER ANALYTICAL SERVICES

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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	12100304
Sampled by:	S. Green
PO Number:	

Page 1 of 2

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B										Sampling Remarks/ Comments
	TB-100312	—	—	3/2	GW	√										
	DR-CPT-03-20	10/3/12	0940	3	GW	√										
	DR-CPT-03-33		0950	3	GW	√										
	DR-CPT-04-14		0955	3	GW	√										
	DR-CPT-04-24		1000	3	GW	√										
	DR-CPT-01-15		1010	3	GW	√										
	DR-CPT-01-23		1015	3	GW	√										
	DR-CPT-02-14		1025	3	GW	√										
	DR-CPT-02-23	↓	1030	3	GW	√										
				3	GW	√										

Relinquished by:		**Date/Time:**	10/3/12 -
Received by:		**Date/Time:**	10/3/12 1305
Relinquished by:		**Date/Time:**	
Received by:		**Date/Time:**	
Relinquished by:		**Date/Time:**	
Received by:		**Date/Time:**	

Deliverables: I II III CLP EDD

Custody Seals: Sample (Cooler) Delivered by client (CAS Courier)

Receipt Temperature: Temp:____ (On Ice)

Turnaround Time: STD (Next Day) 2 Day Other____

Comments/Special Instructions:

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES

8851 Orchard Tree Lane Towson, MD 21286
Phone: 410.825.1151
Fax: 410.825.2126
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Chain of Custody Record

Customer:	Tetra Tech, Inc
Contact/Report to:	Gene Burke
Phone:	703-399-0020
Fax:	540-895-5076

E-mail address:	gzoperations@verizon.net
Project Name:	Dump Road
Project Number:	1086998
Site Location:	Middle River, Maryland

SDG Number:	12100304
Sampled by:	S. Gheron
PO Number:	

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Preservative / Matrix *	VOCs by 8260B										Sampling Remarks/ Comments
	DR-CPT-DUP12-20	10/3/12	—	3	GW	√										
	DR-CPT-DUP13-14	10/3/12	—	3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										
				3	GW	√										

Relinquished by:		**Date/Time:**	10/5/12 —	**Deliverables:**	**Receipt Temperature:**	**Turnaround Time:**
Received by:		**Date/Time:**	10/3/12 1305	I II III CLP EDD	Temp:____ (On Ice)	STD (Next Day) 2 Day Other____
Relinquished by:		**Date/Time:**		**Custody Seals:**	**Comments/Special Instructions:**	
Received by:		**Date/Time:**		Sample (Cooler)		
Relinquished by:		**Date/Time:**		Delivered by client		
Received by:		**Date/Time:**		(CAS Courier)		

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

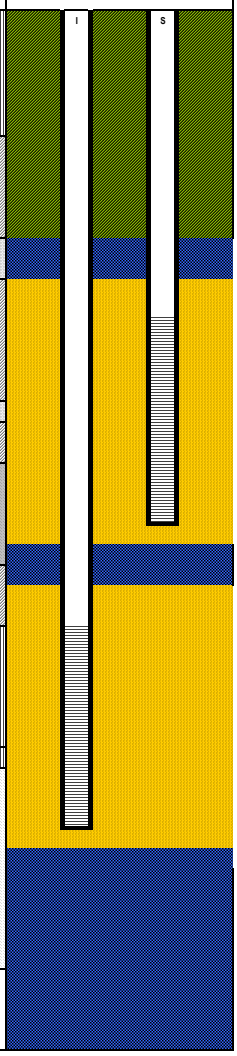
APPENDIX E—BORING LOGS, WELL CONSTRUCTION DIAGRAMS, AND WELL DEVELOPMENT LOGS

PROJECT:	**DUMP ROAD SOURCE AREA INVESTIGATION**	**JOB NO.** 112IC04140	**WELL NUMBER** MW-40-I/S	**CLIENT:** LOCKHEED MARTIN CORP, BETHESDA, MARYLAND
		DRILLING METHOD:	ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT	
LOCATION:	**MARTIN STATE AIRPORT** **701 WILSON POINT ROAD** **MIDDLE RIVER, MARYLAND**	**COMPANY:**	BOART LONGYEAR, Marietta, Ohio	
		OPERATOR:	LARRY HUNSBERGER	
		SAMPLING METHOD:	CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE	

WELL SCREEN:	10 SLOT (0.01-INCH) PVC			**DRILLING**	
RISER:	SCHEDULE 40 THREADED SOLID PVC CASING	**LOGGED BY:**	WALTER O'NIELL	**START DATE**	**FINISH DATE**
FILTER PACK:	TYPE I SILICA SAND	**BORING DEPTH:**	50 feet	10/4/2012	10/4/2012
SEAL:	MEDIUM BENTONITE CHIPS	**DATUM:**	Horizontal: North American Datum (NAD) 1983; Vertical: North American Vertical Datum (NAVD) 1988		
GROUT:	CEMENT/BENTONITE SLURRY GROUT	**COORDINATES:**	Northing: 604210.578 feet Easting: 1479866.586 feet		
		ELEVATION:	Ground: 14.70 feet, Top of Well Casing: 17.780 feet		
ppm= parts per million		**PERMIT NO.**			

SURFACE CONDITIONS: unpaved, wooded area

	DEPTH (ft)	SAMPLE INTERVAL (ft)	RECOVERY (INCHES)	SHELBY TUBE LOCATION	MOISTURE CONTENT	PID READING (ppm)	Material Description	USCS
MW-40-I/S	1	0-6			Dry	4.2	SILT: brown silt to gravel fill with debris, bricks at top	GM
	2					5.6		
	4							
	6					38.5		
	8	6-16			Dry	22.3	CLAY: gray, iron stained clay, stiff, dry	CL
	9					34.1		
	10				Moist	271.0	CLAY: gray, plastic	
	12				Wet	57.8	SAND: red brown, medium sand, soft, wet	SP
	14				Slightly Moist	21.9	CLAY: brown, gray, sandy silty clay, slightly plastic and slightly moist	CL
	16							
	18	16-26			Dry	11.1	CLAY: tan, orange, silty clay, stiff, dry	CL
	19				Wet	4.4	SAND: red, brown sand, soft, wet	SP
	20				Slightly Moist	79.2	CLAY: brown sandy/silty clay, fairly stiff	CL
	22				Wet	79.6	SAND: tan medium sand, soft, wet, with tan clayey sand lenses, soft, wet and silty in some places	SC
	24							
	25							
	26				Moist	45.7	SAND: tan clayey sand, soft, moist	SC
	28	26-36			Slightly Moist	19.8	CLAY: tan/orange sandy silty clay, stiff	CL
	29				Dry	48.8	CLAY: tan orange silty clay, stiff	CL
	30				Wet	21.8	SAND: brown to pink sand, soft, wet, w/ some silty sand lenses	SM
	32					14.1		
	34				Moist	4.1	SILT: tan clayey silt, fairly stiff, moist to slightly moist	
	36	36-46			Wet	4.2	SAND: orange brown sand, soft, wet, w/ clay balls at 40'-42' and iron stone gravel at 45.5'	ML
	38					8.6		SW
	40					1.5		
	42					4.6		
	44					8.3		
	46							
	48	46-50					NO RECOVERY 46-50', TERMINATION OF BORING AT 50'	
	50							



WELL INSTALLATION

PROJECT:	DUMP ROAD SOURCE AREA INVESTIGATION	**JOB NO.** 112IC04140	**WELL NUMBER** MW-41-I/S	**CLIENT:** LOCKHEED MARTIN CORP, BETHESDA, MARYLAND	
		DRILLING METHOD:	ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT		
LOCATION:	MARTIN STATE AIRPORT 701 WILSON POINT ROAD MIDDLE RIVER, MARYLAND	**COMPANY:**	BOART LONGYEAR, Marietta, Ohio		
		OPERATOR:	LARRY HUNSBERGER		
		SAMPLING METHOD:	CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE		
WELL SCREEN:	10 SLOT (0.01-INCH) PVC				
RISER:	SCHEDULE 40 THREADED SOLID PVC CASING	**LOGGED BY:**	WALTER O'NIELL	**DRILLING**	
FILTER PACK:	TYPE I SILICA SAND	**BORING DEPTH:**	55 feet	**START DATE** 10/3/2012	**FINISH DATE** 10/3/2012
SEAL:	MEDIUM BENTONITE CHIPS	**DATUM:**	Horizontal: North American Datum (NAD) 1983; Vertical: North American Vertical Datum (NAVD) 1988		
GROUT:	CEMENT/BENTONITE SLURRY GROUT	**COORDINATES:**	Northing: 604422.892 feet; Easting: 1479434.635 feet		
		ELEVATION:	Ground: 10.540 feet; Top of Well Casing: 10.23 feet		
ppm= parts per million		**PERMIT NO.**			

	DEPTH (ft)	SAMPLE INTERVAL (ft)	RECOVERY (INCHES)	SHELBY TUBE LOCATION	MOISTURE CONTENT	PID READING (ppm)	SURFACE CONDITIONS: unpaved, wooded area Material Description	USCS	WELL INSTALLATION
MW-41-I/S	1	0-6			Damp	9.3	brown soil, damp	GM	GROUT, BENTONITE, SANDPACK, S, I
	2				Dry	37.1	SILT TO GRAVEL: brown, filll w/debris	GM	
	4								
	6				Moist	12.2	CLAY: dark gray clay, soft plastic moist with lenses of black clay with petroleum odor, debris	CL	
	7	6-16			Moist	1353.0	CLAY: black organic rich clay, strong petroleum odor, soft, plastic	CL	
	8				Slightly Moist	232.0	CLAY: gray to light brown silty clay with lenses of black clay with petroleum odor, very slightly moist, slightly plastic	CL	
	9								
	10				Dry		CLAY: gray to light brown silty clay, stiff, dry	CL	
	11				Dry	5.3	CLAY: gray silty clay, stiff, dry	CL	
	12								
	13					7.4			
	15					6.7			
	16				Slightly Moist	3.7	CLAY: gray silty to sandy clay, fairly soft, slightly moist	CL	
	17	16-26							
	18				Wet	3.7	SAND: red/pink, medium sand, soft, wet	SP	
	19				Slightly Moist	11.1	CLAY: red/gray silty to sandy clay, fairly stiff, slightly moist	CL	
	20				Slightly Moist	79.2	CLAY: brown sandy/silty clay, fairly stiff	CL	
	22				Wet	3165.0	SAND: light brown med silty sand, soft, wet, with small clay lenses (1-2") at base	SM	
	24					168.0			
	26				Wet	142.0	SAND: red orange sand, soft	SP	
	28	26-36			Wet	142.0	CLAY: tan/orange/pink silty clay, stiff, dry, with silty sand lenses at 31' and 34.5'	CL	
	29					96.0			
	30					73.0			
	32					20.2			
	34					5.7 2.4			
	35				Moist	1.5	SAND: red/orange/tan silty and clayey sand, soft, moist	SM/SC	
	36	36-46			Slightly Moist	1.5	CLAY: tan/orange silty clay, stiff to pliable, dry to very slightly moist	CL	
	38				Wet	13.7	SAND: orange ferriginous sand, soft, wet	SW	
	40				Wet	9.3	SAND: brown to light brown med to coarse sand, wet, with clay lenses at 49' and 52'	SP	
	42					12.7			
	44					16.4			
	46					8.7			
	48	46-50				11.3 0.6			
	50					4.3			
	55				Dry	4.2	CLAY: tan, orange med silty clay, stiff, dry	CL	

BORING TERMINATED AT 55'

PROJECT:	**DUMP ROAD SOURCE AREA INVESTIGATION**	**JOB NO.** 112IC04140	**WELL NUMBER** MW-42-I/S	**CLIENT:** LOCKHEED MARTIN CORP, BETHESDA, MARYLAND
		DRILLING METHOD:	ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT	
LOCATION:	**MARTIN STATE AIRPORT** **701 WILSON POINT ROAD** **MIDDLE RIVER, MARYLAND**	**COMPANY:**	BOART LONGYEAR, Marietta, Ohio	
		OPERATOR:	LARRY HUNSBERGER	
		SAMPLING METHOD:	CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE	

WELL SCREEN:	10 SLOT (0.01-INCH) PVC			**DRILLING**	
RISER:	SCHEDULE 40 THREADED SOLID PVC CASING	**LOGGED BY:**	WALTER O'NIELL	**START DATE**	**FINISH DATE**
FILTER PACK:	TYPE I SILICA SAND	**BORING DEPTH:**	35 feet		
SEAL:	MEDIUM BENTONITE CHIPS	**DATUM:** Horizontal: North American Datum (NAD) 1983; Vertical: North American Vertical Datum (NAVD) 1988		10/2/2012	10/2/2012
GROUT:	CEMENT/BENTONITE SLURRY GROUT	**COORDINATES:** Northing: 604730.823 feet; Easting: 1479175.207 feet			
		ELEVATION: Ground: 9.110 feet, Top of Well Casing: 8.88 feet			
ppm= parts per million		**PERMIT NO.**			

	DEPTH (ft)	SAMPLE INTERVAL (ft)	RECOVERY (INCHES)	SHELBY TUBE LOCATION	MOISTURE CONTENT	PID READING (ppm)	SURFACE CONDITIONS: unpaved, wooded area Material Description	USCS	WELL INSTALLATION
MW-42-I/S	1	0-6			Moist	126.0	dark brown soil, moist	GM	GROUT, BENTONITE, SANDPACK
	2				Dry	130.0	SILT TO GRAVEL: medium brown silty fill with pebble to gravel, no plasticity	GM	
	4								
	6				Dry	143.0	SILT: brown silty fill, no plasticity, dry	ML	
	7	6-16				151.0			
	8				Moist	1270.0	SAND: red brown medium sand, moist	SW	
	9								
	10				Moist	1270.0	SAND: dark gray to black sand, strong odor, free product likely	SW	
	11				Moist	84.0	SAND: brown gray medium sand, moist	SW	
	12								
	13					11.5			
	15					5.4			
	16					4.7			
	17	16-26			Wet	9.2	SAND: brown gray medium sand, wet	SW	
	18								
	19					38.1			
	20					27.1			
	22				Wet		SAND: tan to orange silty sand w/ smalll clay lenses, soft	SM	
	24					12.3			
	25								
	26					6.9			
	28	26-36				4.4			
	29								
	30				Wet	2.0	SAND: tan to orange clayey sand, soft	SC	
	32				Wet	1.5	SAND: tan to orange silty to clayey sand. Soft, wet	SC/SM	
	34				Slightly Moist	0.4	CLAY: tan to orange silty clay, stiff and dry to slightly plastic and slightly moist silty clay	CL	
	35								

TERMINATION OF BORING AT 35'

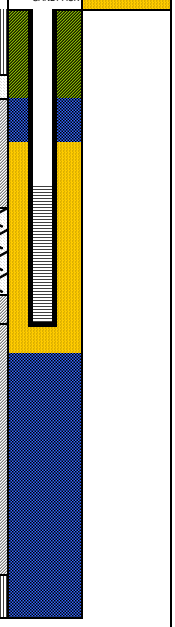
PROJECT:	**DUMP ROAD SOURCE AREA INVESTIGATION**	**JOB NO.** 112IC04140	**WELL NUMBER** MW-43-S	**CLIENT:** LOCKHEED MARTIN CORP, BETHESDA, MARYLAND
		DRILLING METHOD:	ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT	
LOCATION:	**MARTIN STATE AIRPORT** **701 WILSON POINT ROAD** **MIDDLE RIVER, MARYLAND**	**COMPANY:**	BOART LONGYEAR, Marietta, Ohio	
		OPERATOR:	LARRY HUNSBERGER	
		SAMPLING METHOD:	CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE	
WELL SCREEN:	10 SLOT (0.01-INCH) PVC			
RISER:	SCHEDULE 40 THREADED SOLID PVC CASING	**LOGGED BY:**	WALTER O'NIELL	**DRILLING**
FILTER PACK:	TYPE I SILICA SAND	**BORING DEPTH:**	25 feet	**START DATE** 10/5/2012 / **FINISH DATE** 10/5/2012
SEAL:	MEDIUM BENTONITE CHIPS	**DATUM:**	Horizontal: North American Datum (NAD) 1983; Vertical: North American Vertical Datum (NAVD) 1988	
GROUT:	CEMENT/BENTONITE SLURRY GROUT	**COORDINATES:**	Northing: 604776.013 feet; Easting: 1479523.701 feet	
		ELEVATION:	Ground: 15.40 feet; Top of Well Casing: 18.08 feet	
ppm= parts per million		**PERMIT NO.**		

SURFACE CONDITIONS: unpaved, wooded area

	DEPTH (ft)	SAMPLE INTERVAL (ft)	RECOVERY (INCHES)	SHELBY TUBE LOCATION	MOISTURE CONTENT	PID READING (ppm)	Material Description	USCS
MW-43-S	1	0-6			Dry	3.8	SILT: brown, silty fill	ML
	2					1.0		
	3				Dry		Same as above with white sand to gravel	GM
	5				Slightly Moist	0.6	CLAY: brown silty clay with some gravel, fairly stiff	CL
	6							
	7	6-16				0.7		
	8				Slightly Moist	0.7	CLAY: brown silty clay with black and gray streaks, plastic, very slightly moist, gravel at 8'	CL
	9							
	10				Wet	0.4	SAND: gray brown silty and clayey sand, soft, wet	SM/SC
	11							
	12							
	13				Dry	0.5	CLAY: gray orange silty clay, stiff, dry	CL
	15					0.3	CLAY: gray silty clay, stiff	
	16					0.2		
	17	16-26				0.8		
	18							
	19				Dry	0.4		CL
	20					0.6		
	22							
	24							
	25				Slightly Moist	0.6	SILT: gray clayey silt, stiff	ML

TERMINATION OF BORING AT 25'

WELL INSTALLATION



PROJECT:	**DUMP ROAD SOURCE AREA INVESTIGATION**	**JOB NO.** 112IC04140	**WELL NUMBER** MW-44-S	**CLIENT:** LOCKHEED MARTIN CORP, BETHESDA, MARYLAND	
		DRILLING METHOD:	ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT		
LOCATION:	**MARTIN STATE AIRPORT 701 WILSON POINT ROAD MIDDLE RIVER, MARYLAND**	**COMPANY:**	BOART LONGYEAR, Marietta, Ohio		
		OPERATOR:	LARRY HUNSBERGER		
		SAMPLING METHOD:	CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE		
WELL SCREEN:	10 SLOT (0.01-INCH) PVC				
RISER:	SCHEDULE 40 THREADED SOLID PVC CASING	**LOGGED BY:**	WALTER O'NIELL	**DRILLING**	
FILTER PACK:	TYPE I SILICA SAND	**BORING DEPTH:**	25 feet	**START DATE**	**FINISH DATE**
SEAL:	MEDIUM BENTONITE CHIPS	**DATUM:**	Horizontal: North American Datum (NAD) 1983; Vertical: North American Vertical Datum (NAVD) 1988		
GROUT:	CEMENT/BENTONITE SLURRY GROUT	**COORDINATES:**	Northing: 605023.927 feet; Easting: 1479579.220 feet	10/5/2012	10/5/2012
		ELEVATION:	Ground: 9.460 feet; Top of Well Casing: 9.21 feet		
ppm= parts per million		**PERMIT NO.**			

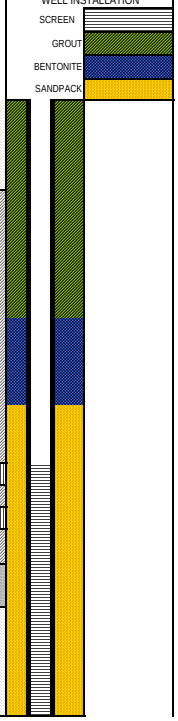
	DEPTH (ft)	SAMPLE INTERVAL (ft)	RECOVERY (INCHES)	SHELBY TUBE LOCATION	MOISTURE CONTENT	PID READING (ppm)	SURFACE CONDITIONS: unpaved, wooded area Material Description	USCS	WELL INSTALLATION
MW-44-S	1	0-6			Damp	0.7	Brown soil, soft	ML	SCREEN, GROUT, BENTONITE, SANDPACK
	2				Dry		SILT TO GRAVEL: brown silt to gravel fill, dry	GM	
	3				Slightly Moist	4.2	CLAY WITH GRAVEL: brown clayey fill with gravel	GC	
	5				Wet	11.7	CLAYEY DEBRIS: black clayey debris, lumber, metal, ceramics, plastic bags, chemical odor	CL	
	6								
	7	6-16			Slightly Moist	1.1	CLAY: dark gray silty clay, soft, plastic, slightly moist	CL	
	8					1.2			
	9								
	10					0.5			
	11								
	12								
	13					0.7			
	15					0.8			
	16					1.8			
	17	16-26			Slightly Moist	3.7	CLAY: brown gray clay to silty clay, soft, plastic, silt lens at 16.5-16.75'	CL	
	18								
	19					1.0			
	20					0.6			
	22								
	24				Slightly Moist	1.0	DEBRIS: black decomposed woody debris with silt at base	N/A	
	25								

TERMINATION OF BORING AT 25'

PROJECT:	**DUMP ROAD SOURCE AREA INVESTIGATION**	**JOB NO.** 112IC04140	**WELL NUMBER** MW-45-S	**CLIENT:** LOCKHEED MARTIN CORP, BETHESDA, MARYLAND
		DRILLING METHOD:	ROTOSONIC 7 INCH DIA. BY 10-FOOT STEEL RODS; SONIC BUTTON BIT	
LOCATION:	**MARTIN STATE AIRPORT** **701 WILSON POINT ROAD** **MIDDLE RIVER, MARYLAND**	**COMPANY:**	BOART LONGYEAR, Marietta, Ohio	
		OPERATOR:	LARRY HUNSBERGER	
		SAMPLING METHOD:	CONTINUOUS 4-INCH BY 10-FOOT STEEL SONIC CORE	
WELL SCREEN:	10 SLOT (0.01-INCH) PVC			
RISER:	SCHEDULE 40 THREADED SOLID PVC CASING	**LOGGED BY:**	WALTER O'NIELL	**DRILLING**
FILTER PACK:	TYPE I SILICA SAND	**BORING DEPTH:**	25 feet	**START DATE** 10/5/2012 / **FINISH DATE** 10/5/2012
SEAL:	MEDIUM BENTONITE CHIPS	**DATUM:**	Horizontal: North American Datum 1983; Vertical: North American Vertical Datum (NAVD) 1988	
GROUT:	CEMENT/BENTONITE SLURRY GROUT	**COORDINATES:**	Northing: 604428.371 feet; Easting: 1479440.387 feet	
		ELEVATION:	Ground: 10.310 feet; Top of Well Casing: 10.03 feet	
ppm= parts per million		**PERMIT NO.**		

	DEPTH (ft)	SAMPLE INTERVAL (ft)	RECOVERY (INCHES)	SHELBY TUBE LOCATION	MOISTURE CONTENT	PID READING (ppm)	Material Description	USCS
							SURFACE CONDITIONS: unpaved, wooded area	
MW-45-S	1	0-6			Damp	13.6	SILT TO GRAVEL: brown silt to gravel fill, damp	GM
	2							
	3				Dry	6.4	SILT TO GRAVEL: light brown silt to gravel fill, dry with black clay at base with petroleum odor	GM
	5				Slightly Moist	157.0	CLAY: dark gray clay, soft with small (<1") seams of black clay at 4 to 5.5	CL
	6							
	7	6-16						
	8				Slightly Moist	1043.0	CLAY: black organic rich clay, strong petroleum odor	CL
	9				Slightly Moist	534.0	CLAY: dark gray clay, soft, slightly moist with lenses of black organic clay	CL
	10				Dry	15.6	CLAY: gray to light brown silty clay, stiff	CL
	11				Dry	0.6	CLAY: gray silty clay, stiff	CL
	12					75.9		
	13					13.6		
	15				Slightly Moist	25.9	CLAY: gray silty clay	CL
	16				Wet		SAND: gray silty sand, soft	SM
	17	16-26			Dry	268.0	CLAY: tan silty clay, stiff	CL
	18				Wet		SAND: black to gray silty sand, soft, wet	SM
	19				Dry		CLAY: tan/gray silty clay, stiff	CL
	20				Wet	268.0	SAND: gray, red brown clayey sand to medium sand, soft, wet	SC
	22				Wet	158.0	SAND: light brown medium sand, soft, wet	SW
						537.0		
	24					503.0		
	25							

TERMINATION OF BORING AT 25'



Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: DR-MW-405
Site: Middle River, MD
Date Installed: 10/4/12
Date Developed: 10/6/12
Dev. Method: sub pump
Pump Type: 12 V. sub

Depth to Bottom (ft.): 27.70
Static Water Level Before (ft.): 13.42
Static Water Level After (ft.):
Screen Length (ft.): 10'
Specific Capacity:
Casing ID (in.): 2"

Responsible Personnel: Walter O'Niell
Drilling Co.: Boart Longyear
Project Name: DRA Source Area Investigation
Project Number: 112IC04140

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units µS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)	ORP mV	DO mg/L
1209	—	0	15.18	—	—	—	—	start turbid		
1215		14	Dry					very turbid		
1302			19.90	restart pump - Flow 0.18 gpm						
1315		16.4	22.62	17.66	6.07	1618	>4000		-62.3	6.11
1320	increased flow to pump out line									
1322		21	dry	Awaiting recharge			>4000			
1358	restart pump - pump out fast to clear line									
1402		27	dry	- awaiting recharge						
1437			22.0					restart pump @ 1/8 gpm		
1450		28.6	23.18	16.78	5.63	2014	992		52	6.21
1453		29	23.42	16.54	5.72	1981	189		43.2	6.40
1501		30	23.68	16.56	5.82	1987	96.1		42.3	6.19
1509		31	24.03	16.55	5.81	19.72	43.7		43.4	5.87
1510	pump out well Dry @ 1516 total pumped 34 gallons									
	should be OK to sample @ ~ 1/8 gpm - aquifer matrix									
	is silty & could take a very long time to pump clear,									
	but slow pumping (1/8 gpm) should yield turbidity < 50 NTU									

waiting for recharge

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: DR-MW-40I
Site: Middle River, MD
Date Installed: 10/4/12
Date Developed: 10/6/12
Dev. Method: sub pump
Pump Type: 12 V Sub.

Depth to Bottom (ft.): 43.20
Static Water Level Before (ft.): 16.15
Static Water Level After (ft.):
Screen Length (ft.): 10'
Specific Capacity:
Casing ID (in.): 2"
* WP pump

Responsible Personnel: Walter O'Niell
Drilling Co.: Boart Longyear
Project Name: DRA Source Area Investigation
Project Number: 112IC04140

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units ~~µS/cm~~)	Turbidity (NTU)	Remarks (odor, color, etc.)	mV ORP	mg/L DO
1018	—	0	15.80*					start pump		
1027	—	19	22.04	15.84	6.64	1090	1780		+57.3	2.16
1047	—	36	21.99	16.05	6.35	1467	1012		-28.3	5.28
1056	—	55	22.25	14.95	6.02	1578	1043		-49.6	1.28
1114	—	73	23.08	15.26	5.94	1771	1020		-66.7	0.85
1129	—	93	22.72	14.95	5.99	1819	887	starting to get clear	-69.4	1.30
1140	—	113	22.64	14.88	6.04	1688	708		-57.9	0.91
1152	—	128	22.34	14.78	5.97	1712	83.9		-66.8	1.02
1154	—	132	22.34	15.14	5.91	1698	31.9		-68.3	1.04
1157	—	138	22.33	15.08	5.89	1661	28.3		-67.2	1.13
			Done							

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: DR-MW-415 | Depth to Bottom (ft.): 35 | Responsible Personnel: Walter O'Niell
Site: Middle River, MD | Static Water Level Before (ft.): 8.79 | Drilling Co.: Boart Longyear
Date Installed: 10/3/12 | Static Water Level After (ft.): | Project Name: DRA Source Area Investigation
Date Developed: 10/7/12 | Screen Length (ft.): 7' | Project Number: 112IC04140
Dev. Method: Sub - pump | Specific Capacity:
Pump Type: 12V submersible | Casing ID (in.): 2"

* water level meter not available, but well makes a lot of water

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units ~~µS/cm~~)	Turbidity (NTU)	Remarks (odor, color, etc.)	mg/L DO	mV ORP
1230		165	N/A *	14.17	4.79	977	628		3.16	142
1335		200	"	14.69	4.66	991	720		2.09	150.8
1400		215	"	14.48	4.73	990	104		3.21	146.9
		245	gallons total			pumped	from well			

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: DR-MW-41I
Site: Middle River, MD
Date Installed: 10/3/12
Date Developed: _____
Dev. Method: Sub pump
Pump Type: 12 V. Submersible

Depth to Bottom (ft.): 54'
Static Water Level Before (ft.): 8.79
Static Water Level After (ft.): _____
Screen Length (ft.): 10
Specific Capacity: _____
Casing ID (in.): 2"

Responsible Personnel: Walter O'Niell
Drilling Co.: Boart Longyear
Project Name: DRA Source Area Investigation
Project Number: 112IC04140

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units µS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)	mg/L DO	mV ~~ORP~~ ORP
1547		0	8.79					Starts turbid	DO	ORP
1600		18	9.89	16.39	6.57	476	6.47	flow ≈ 1.4 gpm	0.92	-87.4
1614		36	9.69	15.59	6.83	642	467		0.68	-126.7
1628		55	9.63	15.61	6.75	774	122		0.73	-132.9
1641		73	9.65	15.57	6.75	819	121		0.82	-130.8
1648		82	9.62	15.27	6.68	920	122		0.81	-129.2
1656		91	9.62	15.23	6.65	937	85.2		0.81	-129.3
1703		100	9.62	15.14	6.64	948	23.2		0.92	-129.3
			DONE							

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: DR-42S
Site: Middle River, MD
Date Installed: 10/2/12
Date Developed: 10/7/12
Dev. Method: Submersible pump
Pump Type: 12V

Depth to Bottom (ft.): 12'
Static Water Level Before (ft.): 7.51
Static Water Level After (ft.):
Screen Length (ft.): 7'
Specific Capacity:
Casing ID (in.): 2"

Responsible Personnel: Walter O'Niell
Drilling Co.: Boart Longyear
Project Name: DRA Source Area Investigation
Project Number: 112IC04140

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units µS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)	Do mg/L	ORP mv
1110	—	0	7.20	—	—	—	—	—		
1112		3	dry -	Awaiting	recharge					
1138		3	9.5	Dry @	1147	still very	turbid ~~to~~	restart 1/8 gpm	very	turbid
1300			8.25	restart		@ ~ 1/8 gpm				
1316		6	very	turbid	increase	flow to	pump out	well	- dry	in 15 sec
1345		6	9.86	restart						
1349		9	Dry -	very turbid	, but	less than	previous -	Awaiting	recharge	
1420		9	8.55	restart						
1425		14	dry	still turbid		Await	recharge			
1500			8.45	restart		pump				
1502		14.25	9.05	16.65	6.05	1457	3195		1.51	-64.0
1504		14.5	9.49	17.45	6.51	1505	1487		1.61	-79.3
1508		15.0	9.52	17.36	6.48	1499	852		1.64	-81.6
1512		15.5	9.85	18.04	6.63	1525	900		1.73	-82.6
1516		16.0	Below pump	18.17	6.68	1529	192		1.86	-83.9
1520		16.5	" "	18.08	6.71	1533	21		2.03	-85.8
	Done -		~~[illegible]~~ pump out well @ high speed							

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: DR-MW-42I
Site: Middle River, MD
Date Installed: 10/2/12
Date Developed: 10/4/12
Dev. Method: submersible pump
Pump Type: 12V

Depth to Bottom (ft.): 33
Static Water Level Before (ft.): 5.94
Static Water Level After (ft.):
Screen Length (ft.): 5'
Specific Capacity:
Casing ID (in.): 2"

Responsible Personnel: Walter O'Niell
Drilling Co.: Boart Longyear
Project Name: DRA Source Area Investigation
Project Number: 112IC04140

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units µS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)		
0751	0	0	5.94	—	—	—	—	Start pump very turbid		
0756		6	DRY Await recharge			—	—		ORP mV	DO mg/L
0816			25.0	restart @		slower Flow rate 0.15 gpm				
0850		9	28.38	14.25	6.57	511	3573		-0.2	5.35
0900		increase pump rate to clear lines of silt - well pumping @ ~ 1/8 gpm not pumping dry - v. turbid								
0914	stop to allow recharge - recharged to 30' @ 0923 → restart									
0925		16	dry	Awaiting recharge - recharged to 28' @ restart @ 0945						
0950		19	28.80	14.45	6.05	342	3762		18	6.63
0958		20	28.90	14.54	5.98	316	1211		23.3	6.34
1012		21	29.04	14.60	5.88	307	723		24.5	6.50
1018		21.5	28.95	14.67	5.85	326	93.4		22.8	6.34
1024		22	28.90	14.73	5.86	331	74.3		20.6	6.40
1030		22.5	28.92	14.73	5.87	331	43.3		20.1	6.40
	Done pumped out well - some turbidity apparent									
	as well is pumped dry - dry @ 1019 restart @ 1022									
	w/ enough water in well to pump @ recharge rate ~ 1/12 gpm									
	Pump till 1100 - turb = 32.8 cumulative volume = 24 gallons									
			Done							

Flow 1/12 gp

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: DR-MW-435
Site: Middle River, MD
Date Installed: 10/5/12
Date Developed: 10/6/12
Dev. Method: HAND BAILED
Pump Type: N/A

Depth to Bottom (ft.): 16.62
Static Water Level Before (ft.): 13.98
Static Water Level After (ft.): _____
Screen Length (ft.): 5'
Specific Capacity: _____
Casing ID (in.): 2"

Responsible Personnel: Walter O'Niell
Drilling Co.: Boart Longyear
Project Name: DRA Source Area Investigation
Project Number: 112IC04140

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units ____)	Turbidity (NTU)	Remarks (odor, color, etc.)
0752	—	0	13.98	—	—	—	—	Very turbid, brown water
0808		2	0	—	—	—	—	" — " "
10/7/12 1336		2.25	N/A					Very turbid
	Well recovers very slowly					only	6" water in well	

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: DR-MW-44S
Site: Middle River, MD
Date Installed: 10/5/12
Date Developed: 10/6/12
Dev. Method: submersible pump
Pump Type: 12V sub.

Depth to Bottom (ft.):
Static Water Level Before (ft.): 3.98
Static Water Level After (ft.):
Screen Length (ft.): 10'
Specific Capacity:
Casing ID (in.): 2"

Responsible Personnel: Walter O'Niell
Drilling Co.: Boart Longyear
Project Name: DRA Source Area Investigation
Project Number: 112IC04140

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units µS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)
0737	—	0	3.98'	—	—	—	—	hand baiting well
0750	—	2	3.98	—	—	—	—	will need pump to develop well
0848	—		3.98					Start pumping
0856	—	~~15~~ 20	4.91	19.96	6.87	958	N/A	ORP -60.6 DO - 2.15
0900	—	27	4.98	19.83	6.74	953	N/A	-66.5 1.87
0904	—	36	4.98	19.74	6.76	942	N/A	-71.0 2.21
0907	—	45	4.98	19.73	6.78	945	N/A	-76.7 1.85
0912	—	50	4.98	19.70	6.79	942	13.2	-75 1.70
		Did not have turb meter on YSI						
		pumped till clear, kept sample &						@ 09R
		will ~~check~~ turb. if meter is in hangar 3						
		pickup						

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Well: DR-455
Site: Middle River, MD
Date Installed: 10-5-12
Date Developed: 10-6-12
Dev. Method: Submersible pump
Pump Type: 12V

Depth to Bottom (ft.): 25'
Static Water Level Before (ft.): 8.64'
Static Water Level After (ft.):
Screen Length (ft.): 10'
Specific Capacity:
Casing ID (in.): 2"

Responsible Personnel: Walter O'Niell
Drilling Co.: Boart Longyear
Project Name: DRA Source Area Investigation
Project Number: 112IC04140

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units µS/cm)	Turbidity (NTU)	Remarks (odor, color, etc.)		
1710	—	—	8.62	—	—	—	—	start	ORP mV	DO mg/L
1716		9	11.78	16.07	6.17	1622	1061		21.3	3.44
1727		27	11.94	15.66	5.88	2452	245		68.1	3.50
1734		36	12.02	15.56	5.96	2630	694		72.5	3.11
1740		45	11.78	15.49	6.00	2650	468		79.3	2.96
1746		54	11.90	15.44	6.02	2692	59.6		83.3	3.07
1752		63	11.93	15.40	6.04	2696	39.3		85.4	2.85
			DONE							